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City of Johannesburg.

REPORT of the MEDICAL OFFICER OF HEALTH on the PUBLIC HEALTH and SANITARY CIRCUMSTANCES of JOHANNESBURG during the Two Years 1st JULY, 1939—30th JUNE, 1941.

GORDON D. LAING, B.Sc., M.B., Ch.B., D.P.H., D.T.M. and Hy.

JOHANNESBURG,
OCTOBER, 1941.

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GORDON D. LAING, B.Sc., M.B., Ch.B., D.P.H., D.T.M. and Hy.
Medical Officer of Health; Colonel, S.A.M.C.-Hon. Cons. Specialist Hygiene Officer to the S.A. Defence Forces; Chairman, Witwatersrand Epidemic Committee; Hon. Cons. Medical Officer to the Rand Water Board; President, Mental Hygiene Society of the Witwatersrand; Chairman, Witwatersrand Branch of S.A. Nursery School Association; Chairman, Witwatersrand and Pretoria Public Health Consultative Committee.

JOHANNESBURG,
OCTOBER, 1941.

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Report of the Medical Officer of Health, 1939—1941.

Public Health Department,
Municipal Offices,
Johannesburg.

To His Worship the Mayor (Mr. Councillor A. R. Thorburn, J.P.) and City Councillors of the City of Johannesburg.

Ladies and Gentlemen,

I have the honour to present herewith my report of the health conditions of Johannesburg for the years 1939-1941.

I assumed duty as Medical Officer of Health during November, 1940, after the sudden demise of the late Dr. A. J. Milne, who was Medical Officer of Health for over 14 years, and whose valuable service to the City is referred to on the following page.

On assuming duty, having been recalled from military service for this purpose, I found that the Staff of the Department, including several female employees, had responded magnificently to the call for volunteers, and that the activities of the Department were being "carried on" by a depleted Staff, many of whom were keen to enlist, but who could not be released without maintaining the minimum reserve necessary to deal with any public health or local emergency which might arise. Under these circumstances it is necessary for me to pay tribute to those who enlisted and no less to those who were not released for military service and who have loyally shouldered the additional burdens resulting from the absence of their colleagues.

It is a pleasure to be able to record that the work of all members of the Staff—professional, clerical and technical—has maintained the high level befitting the largest City in the Union of South Africa. Personally and officially I desire to acknowledge their valued assistance, often in difficult situations, and their loyalty both to the Council which they serve and to myself.

The various activities of your Public Health Department during the two years under review have been dealt with in detail in the report. It is desired, however, to draw attention here to the need for (a) the development of Municipal Housing Schemes for all races—particularly for non-Europeans; (b) the inauguration of a diphtheria immunisation service for the community—particularly the child population; and (c) additional hospital accommodation, especially for non-Europeans and particularly for the accommodation of tuberculosis and infectious disease cases.

A detailed record for the year of inspections, etc., undertaken by the inspectorate staff is submitted on page 31.

I also desire to express my thanks in particular to the occupants of the Mayoral Chair during 1939-40 and 1940-41 (Councillors T. A. M. Huddle, Esq., J.P., and T. P. Gray, Esq., J.P., M.P.C.), and to the Chairman and Members of the Public Health Committee who extended to me kindly support and courtesy, and to all other Heads and Sub-Heads of Departments for their willing co-operation and assistance.

I have the honour to be, Ladies and Gentlemen,

Your obedient servant,

GORDON D. LAING,

Medical Officer of Health.

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The late Dr. Arthur John Milne.

AN APPRECIATION.

One has been constantly reminded during the past few months and particularly during the hours spent in compiling this report, of the great loss which has been suffered by the Council and the citizens of Johannesburg, in the passing of the late Dr. Arthur John Milne, M.B., Ch.B., D.P.H., D.T.M., who was Medical Officer of Health of this city from 13th March, 1926, until his death on 23rd October, 1940.

After many years of service in the Colonial Medical Service—during which he gained valuable first-hand experience of tropical diseases in Mauritius and Ceylon—Dr. Milne was appointed Assistant Medical Officer of Health to the city in 1914, and on the retirement of the late Dr. Charles Porter he was appointed to the position of Medical Officer of Health.

During his term of office as Medical Officer of Health he guided and controlled the activities of the city's Health Department with the health of the citizens—and particularly mothers and children—as the sole object in view. It would be easy to produce " facts and figures " to depict how the organisation under his administration grew apace with the rapid expansion of the city; such information would give a totally inadequate picture of the value of his services to the community of Johannesburg and indirectly, in many respects, to the population of South Africa. It is fitting, however, that mention should be made of some of the salient features of public health progress in Johannesburg during his term of office and pride of place must be accorded to the development and expansion of the city's maternal and child welfare services—a branch of the department in which he always took a special interest. Within a few months after taking control of the department the Council adopted his proposals regarding the initiation of a municipal ante-natal and midwifery service, and in later years the number of infant welfare clinics was increased for Europeans and non-Europeans, ante-natal and post-natal clinics were inaugurated, and nursery schools established.

In this connection it is appropriate to record that the Council, under the guidance of Dr. Milne, established in November, 1930, what was one of the first—if not the first—nursery schools in South Africa. His pioneer work in this direction, followed by his efforts as the Chairman of the Pre-school Child Committee of Enquiry, which was the nucleus of the present South African Nursery School Association, was given little publicity during his lifetime; the existence of six municipal nursery schools in Johannesburg at the time of his death, in addition to the fact that several others had been established throughout the Union, also that Government, provincial and education authorities were actively acknowledging the necessity of sponsoring this particular phase of infant welfare, must have been very satisfying to one who found his reward in the knowledge that he was helping to improve the chances of a healthy and successful lifetime for the " toddlers " passing through such schools.

The eagerness with which the late Medical Officer of Health scrutinised the statistical details in connection with infant and maternal mortality was only incidental to his keen desire to do all that was possible to improve conditions for expectant and nursing mothers, and infants. He was more than pleased to be able to write in his last annual report (1938/39) that after predicting, a year earlier, a decrease in the infantile mortality rate, the rate for the year then under review was " just under fifty per thousand births, the lowest recorded in the history of the city," and that the actual decrease had " even exceeded one's expectations." During the five years 1934-1939 the rate had dropped from 69·21 to 49·83, undoubtedly to a great extent the result of improved services under his administration.

There are, of course, many other matters which might be mentioned; let it suffice that it may be sincerely and truly said that Dr. Milne served the city well. Like all administrators, he had his critics but they will unhesitatingly agree that by all recognised standards there has been a general all-round improvement in the figures relating to the health of the citizens of Johannesburg during his term of office, and there are many reminders, which will remain, of his ability and versatility.

Apart from his service to the city Dr. Milne took no mean part in assisting public health and welfare workers throughout the Union in dealing with their problems; he assiduously kept himself informed on all matters relating to progress in public health work and on his regular visits to Great Britain and Europe always obtained first-hand information in connection with the latest developments. For this reason and because of his vast and varied experience he was regarded as one of the best informed public health workers in the country, and his readiness to assist others resulted in many appeals for advice and information which, it is well known, was greatly appreciated by professional, technical and lay workers in all the provinces.

His duties brought him into contact with workers in all spheres of life and his kindly disposition and calm manner, coupled with an innate courtesy, and a keen sense of humour, made many friends who deeply regret his passing, a feeling which is shared by his colleagues and staff who, collectively and individually, were always mindful of his sympathetic interest in their welfare.

CITY OF JOHANNESBURG.

Public Health Committee, 1939/40.

Councillors

L. Leveson (Chairman).
N. T. Cowin, M.B.E. (Vice-Chairman).
C. F. Beckett, M.P.C.
E. Davies.
M. M. de Jager.
A. S. Holland.
Mrs. S. E. Wordingham.

His Worship the Mayor (*ex officio*).

Public Health Committee, 1940/41.

Councillors

L. Leveson (Chairman).
N. T. Cowin, M.B.E. (Vice-Chairman).
C. F. Beckett, M.P.C. (on leave).
E. Davies.
M. M. de Jager.
A. S. Holland.
J. Mincer (vice C. F. Beckett on leave).
Mrs. S. E. Wordingham.

His Worship the Mayor (*ex officio*).

PUBLIC HEALTH DEPARTMENT.

STAFF.

Administrative and Clerical—

1 Medical Officer of Health: Arthur J. Milne, M.B., B.Ch., D.P.H., D.T.M. (deceased 23rd October, 1940).

1 Deputy Medical Officer of Health: Gordon D. Laing, B.Sc., M.B., Ch. B., D.P.H., D.T.M. & Hy. (on Military Service from 29th January, 1940; Acting Medical Officer of Health from 23rd October, 1940; and Medical Officer of Health from 23rd November, 1940).

1 Assistant Medical Officer of Health (Medical Division): J. W. Scott Millar, B.A., M.B., Ch.B., D.P.H., D.T.M. & Hy. (Deputy Medical Officer of Health from 23rd November, 1940).

1 Assistant Medical Officer of Health (Sanitation Division): B. S. Mundel, M.B., Ch.B., D.P.H. (on Military Service from 27th May, 1940).

1 Chief Clerk: E. M. Coetzee, A.M.I.S.E., Cert. R.S.I. (S.A.).

15 Clerks, 3 Typists, 1 Accountant, 2 Book-keepers, 7 Office Juniors, 1 Telephonist.

Bio-Chemical Division—

1 Bio-Chemist: Harold Wilson, B.Sc., A.M.C.I.

8 Chemists, 1 Clerk.

European Housing—

1 Director of Housing: Jno. S. Russell, A.M.I.S.E., Cert. R.S.I. (S.A.) (on Military Service from 25th June, 1940). Acting Director of Housing: A. H. Spargo, A.M.I.S.E. Cert. R.S.I. (S.A.).

1 Housing Manageress, 3 Assistant Manageresses, 3 Handymen-Fumigators, 1 Matron, 1 Assistant Matron, 1 Cook.

Inspectorate—

1 Chief Health Inspector: W. C. E. Lewis, A.M.I.S.E., Cert. R.S.I. (S.A.) (on Military Service from 6th June, 1940). Acting Chief Health Inspector: W. C. Watson, Cert. R.S.I. (S.A.).

8 Divisional Inspectors, 24 District Inspectors, 2 Anti-rodent Measures Inspectors, 3 Housing Inspectors, 3 Food and Drugs Inspectors, 8 Dairy Inspectors, 1 Infectious Diseases Inspector, 2 Plans Inspectors, 5 Disinfecting Inspectors, 1 Disinfecting Engineer.

Maternal and Child Welfare—

1 Pediatric Officer: B. G. von B. Melle, M.B., Ch.B., F.R.C.S. (Edin.).

1 Assistant Pediatric Officer: A. E. Strawbaum, M.R.C.S., L.R.C.P.

3 Obstetric Officers: W. H. Maxwell, M.B., L.R.C.P., F.R.C.S. (Eng.); F. K. te Water, M.B., Ch.B.; C. F. Krige, M.B., B.Ch., F.R.C.S.,

1 Psychiatrist (Nursery Schools): A. Cox, M.D., Ch.B.

1 Senior Health Visitor: Miss G. K. Jordan—General Nursing Midwifery, and Health Visitor's Certificates.

1 Inspectress of Nursing Homes and Midwives, 16 Health Visitors, 5 Ante-Natal Nurses, 1 Senior Supervisor of Nursery Schools, 7 Nursery School Supervisors, 15 Assistant Supervisors of Nursery Schools, 1 Clinic Caretaker.

Health and Medical Services: Native Locations—

5 Medical Officers, 2 Dental Officers, 6 Health Visitors, 47 Native Nurses, 9 Native Clerk-Orderlies.

Fever Hospital—

1 Physician-in-charge: P. Bayer, M.D., Ch.B., M.R.C.P.

1 Resident Medical Officer, 1 Matron, 5 Sisters, 3 Staff Nurses, 5 Certificated Nurses, 18 Probationer Nurses, 1 Clerk, 1 Telephonist/Typist, 16 Domestic and Laundry, 1 Handyman, 1 Gardener, 26 Natives.

Venereal Diseases Services—

1 Director: Henry Gluckman, M.R.C.S., L.R.C.P.

1 Assistant Director: B. Sieff, M.B., B.Ch.

2 Clinic Orderlies, 2 Nursing Sisters.

Anti-Rodent Staff—

1 Rodent Inspector, 1 Junior Rodent Inspector, 16 Rat-catchers, 19 Rat-catching Youths.

Rest Rooms and Public Conveniences—

2 Supervisors and 28 Attendants.

The foregoing schedule gives details of the staff establishment. Sixty-six officials (61 males and 5 females) were away on military service as at 30th June, 1941, and a proportion of them were replaced by temporary employees.

SUMMARY OF STAFF EMPLOYED.

Europeans:	
Permanent Salaried Staff	69
Temporary Salaried Staff	89
Daily-paid (Fixed Establishment)	22
Daily-paid (Temporary)	54
	234
Fever Hospital	54
Total	288
Natives (including Fever Hospital 26)	112

The foregoing summary is in respect of actual staff employed as at 30th June, 1941, excluding officials on military service.

Report, 1st July, 1939—30th June, 1941.

NATURAL CONDITIONS.

Physical Geography.—Johannesburg is situated 26 degrees 11 minutes South and 28 degrees 4 minutes East, at a mean altitude of 5,850 feet above sea level, almost at the northern limit of the highveld area of the Transvaal Province of the Union of South Africa. The nearest sea coast—on the Indian Ocean—is approximately 300 miles distant. The city is almost in the centre of the Witwatersrand gold fields, which extend more or less eastwards and westwards over a total distance of approximately 80 miles.

The area of the city and its suburbs is 55,972 acres, the extreme length 11¼ miles, extreme width 11¾ miles, extent of perimeter 47¼ miles. In addition, the municipal area includes Pimville Township which, approximately 215 acres in extent, is some 6 miles distant from the south-western boundary of the city and is owned and controlled by the City Council as a native location by virtue of powers granted under the Natives (Urban Areas) Act. Orlando Township, which is 2,228 acres in extent, and with its southern boundary approximately 1½ miles from Pimville, is also a native location established and controlled by the Council under the Natives (Urban Areas) Act, but is not within the defined area of the municipality.

Climate.—In a general sense Johannesburg enjoys an excellent climate. Although the city is within 3 degrees of the Tropic of Capricorn, its climate differs widely from a tropical one, largely owing to the altitude. Situated at a mean altitude of 5,850 feet above sea level, on an immense undulating plateau that has an average altitude of 4,500 feet and being nearly 300 miles from the nearest sea coast, Johannesburg enjoys an essentially temperate climate. Generally the days are bright and warm and the nights cool; in winter, however, there is a lack of humidity in the air, and this, combined with a big diurnal variation in temperature, pre-disposes to an undue incidence of chills and pneumonia unless proper precautions are taken.

Johannesburg is highly favoured regarding sunshine, its average daily sunshine being approximately 8½ hours. The rainfall, which averages 29·47 inches per annum over a period of 31 years, occurs mainly during the summer months (October to March) generally in short and sometimes violent thunderstorms, the mean percentage of rainfall during the summer months being 86·1 per cent.

In this temperate climate indigenous cases of tropical disease are very rare, and of great importance to the mining industry is the fact that excessive heat is never experienced.

The following averages of Johannesburg records at the Union Observatory are kindly supplied by the Chief Meteorologist of the Government Department of Irrigation.

Temperature: Average maximum (20 years) 70·6 degrees F.; average minimum (20 years) 49·7 degrees F.; highest recorded, 93·6 degrees F., on 21st December, 1925; lowest recorded, 20·8 degrees F., on 23rd July, 1926. Rainfall (31 years), 29·47 inches on 96 days. Relative humidity, 65 per cent. (average of 10 years).

VITAL STATISTICS.

(a) *Population (Estimated).*

	30th June, 1939.	30th June, 1940.	30th June, 1941.
Europeans	285,400	288,000	276,200
Natives	234,800	240,000	246,200
Eurafricans	23,400	24,050	24,500
Asiatics	10,950	11,200	11,400
All Races	554,550	563,250	558,300

(b) *Distribution of Native Population.*

	30th June, 1939.	30th June, 1940.	30th June, 1941.
Orlando*	33,000	35,400	40,000
Pimville Native Location†	12,000	12,000	12,000
Eastern Native Township†	4,300	4,300	4,300
Western Native Township†	13,500	15,000	15,000
Remainder of Municipal Area (Mining)	62,000	62,300	61,900
Remainder of Municipal Area (Non-Mining)	110,000	111,000	113,000
Totals	234,800	240,000	246,200

* Native location established by local authority—in terms of Natives (Urban Areas) Act—but not within defined municipal area.

† Native locations established by local authority—in terms of Natives (Urban Areas) Act—within the defined municipal area, although Pimville is approximately 6 miles distant from the south-western boundary of the city.

(c) *Births.*

The following table relates to births during the triennium 1938-1941; the figures are corrected for outward transfers only. For reasons of economy the full details are not printed in this report, but are available for inspection.

	1938-1939			1939-1940			1940-1941		
	Number	Rate	Illegitimate %	Number	Rate	Illegitimate %	Number	Rate	Illegitimate %
Europeans ...	6,843	23·98	2·10	7,117	24·71	3·02	6,937	25.12	2·68
Natives	992*	7·10*§	Details of legitimacy or otherwise not summarised.	2,235	12·58§	49·13	2,658	14·41§	54·97
Eurafricans ...	707	30·21		761	31·64	30·09	813	33·18	27·68
Asiatics	681	62·19		680	60·71	2·79	617	54·12	2·92
All Races ...	9,223*	20·07*§		10,793	19·16	14·46	11,025	19·75	17·14

* Excludes Orlando Native Location.

§ Mining natives not included in calculation of rate.

In examining the foregoing figures it would be unwise to make comparisons between the birth-rate of Europeans and non-Europeans because the registration of births of non-Europeans, and particularly Natives, is known to be very incomplete; and, secondly, the ratio of females to males in the non-European population is very much lower than in the European population, even if allowance is made for males employed in the gold mines. The marked increase in Native births registered in the two years 1939-41 is partly due to the inclusion of the figures for Orlando native location, and probably also to the greater supervision exercised over Native midwives practising in the Council's Native locations following the reorganisation early in 1939, of the health services in such locations.

(d) *Deaths.*

The number of deaths and the death rates from all causes (corrected for outward transfers only) for the past three years are shown in the following table:

	1938-39.		1939-40.		1940-41.	
	Deaths.	Rates.	Deaths.	Rates.	Deaths.	Rates.
Europeans	2,606	9·13	2,621	9·10	2,771	10·03
Natives (Mining)	—	—	342	5·49	372	6·02
Natives (Non-mining) ...	—	—	3,237	18·22	3,525	19·12
Natives (Mining and Non-mining)	3,324*	16·47*	3,579	14·91	3,897	15·83
Eurafricans	493	21·07	516	21·46	476	19·43
Asiatics	228	20·82	198	17·68	187	16·40
All Persons	6,651	11·99	6,914	12·28	7,331	13·13

* Excludes Orlando Native Location.

Annexures A, B, C and D give details of deaths during the two years 1939-41. These annexures are abbreviated for reasons of economy; more complete details are available and can be supplied to those who may desire same. The following table gives particulars of the principal causes of death and the corresponding death rates during the triennium 1938 to 1941 (all figures corrected for outward transfers only):

Cause of Death.	1938-39.*		1939-40.		1940-41.	
	Deaths.	Rates.	Deaths.	Rates.	Deaths.	Rates.
Pneumonia:						
Europeans	225	0·79	201	0·70	238	0·86
Mining Natives	—	—	32	0·51	31	0·50
Non-mining Natives ...	—	—	672	3·78	786	4·26
All Natives	730	3·62	704	2·93	817	3·32
Eurafricans	110	4·70	104	4·32	105	4·29
Asiatics	54	4·93	48	4·29	39	3·42
All Persons	1,119	2·15	1,057	1·88	1,199	2·15
Diseases of the Heart:						
Europeans	647	2·27	551	1·91	647	2·34
Mining Natives	—	—	18	0·29	19	0·31
Non-mining Natives ...	—	—	170	0·96	229	1·24
All Natives	209	1·04	188	0·78	248	1·01
Eurafricans	55	2·35	56	2·33	51	2·08
Asiatics	20	1·83	20	1·79	25	2·19
All Persons	931	1·79	815	1·45	971	1·74
Violent Deaths:						
Europeans	262	0·91	167	0·58	181	0·66
Mining Natives	—	—	108	1·73	161	2·60
Non-mining Natives ...	—	—	270	1·52	288	1·56
All Natives	518	2·56	378	1·58	449	1·82
Eurafricans	35	1·60	35	1·46	36	1·47
Asiatics	12	1·10	4	0·36	8	0·70
All Persons	827	1·59	584	1·04	674	1·21
Diarrhoea and Enteritis:						
Europeans	80	0·28	97	0·34	118	0·43
Mining Natives	—	—	1	0·02	2	0·03
Non-mining Natives ...	—	—	642	3·61	590	3·20
All Natives	433	2·15	643	2·68	592	2·40
Eurafricans	50	2·14	54	2·25	51	2·08
Asiatics	24	2·19	30	2·68	26	2·28
All Persons	587	1·12	824	1·46	787	1·41
Congenital Malformation, Premature and Early Infancy:						
Europeans	152	0·53	189	0·66	163	0·59
Natives	223	1·10	231	0·96	259	1·05
Eurafricans	39	1·66	32	1·33	33	1·35
Asiatics	20	1·83	17	1·52	20	1·75
All Persons	434	0·83	469	0·83	475	0·85
Cancer:						
Europeans	304	1·07	292	1·01	295	1·07
Mining Natives	—	—	3	0·05	7	0·11
Non-mining Natives ...	—	—	27	0·15	39	0·21
All Natives	39	0·19	30	0·13	46	0·19
Eurafricans	10	0·43	8	0·33	13	0·53
Asiatics	5	0·45	10	0·89	11	0·96
All Persons	358	0·69	340	0·60	365	0·65
Tuberculosis (all forms):						
Europeans	66	0·23	68	0·24	58	0·21
Mining Natives	—	—	62	1·00	70	1·13
Non-mining Natives ...	—	—	327	1·84	362	1·96
All Natives	311	1·54	389	1·62	432	1·75
Eurafricans	32	2·22	56	2·33	46	1·88
Asiatics	17	1·55	11	0·98	11	0·96
All Persons	446	0·86	524	0·93	547	0·98

* Excludes Orlando Native Location.

(d) *Deaths*—(continued).

Cause of Death.	1938-39.*		1939-40.		1940-41.	
	Deaths.	Rates.	Deaths.	Rates.	Deaths.	Rates.
Tuberculosis of Lungs:						
Europeans	52	0·18	55	0·19	50	0·18
Mining Natives	—	—	35	0·56	40	0·65
Non-mining Natives ...	—	—	276	1·55	305	1·65
All Natives	226	1·12	311	1·30	345	1·40
Eurafricans	38	1·62	50	2·08	43	1·75
Asiatics	15	1·37	11	0·98	9	0·79
All Persons	331	0·63	427	0·76	447	0·80
Other Forms of Tuberculosis:						
Europeans	14	0·05	13	0·05	8	0·03
Mining Natives	—	—	27	0·43	30	0·48
Non-mining Natives ...	—	—	51	0·29	57	0·31
All Natives	85	0·42	78	0·32	87	0·35
Eurafricans	14	0·60	6	0·25	3	0·12
Asiatics	2	0·18	Nil	—	2	0·17
All Persons	115	0·22	97	0·17	100	0·18

* Excludes Orlando Native Location.

Further details regarding particular causes of death may be obtained by referring to Annexures A, B, C, and D.

INFANTILE AND MATERNAL MORTALITY.

Infantile mortality, i.e. deaths of infants under one year per each 1,000 live births registered, was:

Year.	Whites.	Eurafricans.	Natives.	Asiatics.	All Races.
1939-40	52·13	189·22	579·87	120·59	175·39
1940-41	53·91	156·21	496·61	115·06	171·61

While it is known that the infantile mortality rates for the various non-European races are abnormally high, it is necessary to mention that the incomplete registration of births amongst these races is generally well known, consequently the above figures in respect of the non-European races are published with considerable diffidence as they do not reflect the actual position, nor can they be taken as a reasonable approximation.

The following table shows the European infantile mortality rate in recent years:

1931–32	1932–33	1933–34	1934–35	1935–36	1936–37	1937–38	1938–39	1939–40	1940–41
76·61	80·04	82·43	69·21	74·13	64·63	57·47	49·83	52·13	53·91

The figures for the two years 1939/40 and 1940/41 show a slight increase on the figure for the year 1938/39.

Details of the causes of infantile deaths and the ages at death in respect of the various races and sexes have been analysed and can be supplied on request.

The following is a brief summary of the data available:

(a) Infantile deaths during the year ended 30th June, 1940.

Race	Up to 1 Week	1 Week to 1 Month	Total under 1 Month		1 Month to 3 Months	3 Months to 6 Months	6 Months to 9 Months	9 Months to 12 Months	Totals
			No.	% of Total					
Europeans ...	156	27	183	49	44	73	47	23	370
Natives... ...	243	129	372	29	239	256	217	211	1,295
Eurafricans ...	30	20	50	35	23	29	19	23	144
Asiatics ...	8	12	20	24	15	17	16	14	82
All Races ...	437	188	625	33	321	375	299	271	1,891

(b) Infantile deaths during the year ended 30th June, 1941.

Race	Up to 1 Week	1 Week to 1 Month	Total under 1 Month		1 Month to 3 Months	3 Months to 6 Months	6 Months to 9 Months	9 Months to 12 Months	Totals
			No.	% of Total					
Europeans ...	134	31	165	44	53	79	46	31	374
Natives... ...	236	151	387	29	240	275	223	195	1,320
Eurafricans ...	30	18	48	37	20	15	28	16	127
Asiatics ...	13	14	27	38	14	11	11	8	71
All Races ...	413	214	627	33	327	380	308	250	1,892

The foregoing tables show that between 44 and 49 per cent. of European infantile deaths occurred in the first month after birth, and that the proportion of such deaths amongst Natives and Eurafricans was between 24 and 38 per cent. The proportion of non-European infantile deaths is correspondingly greater in the age groups between 3 and 12 months.

A similar analysis has not been made in respect of previous years, and one hesitates, after an examination of the details revealed in the figures for a two-year period, to enlarge on the particulars available. These figures and the figures for the current year will be carefully analysed in relation to the causes of death, and it is hoped to be able to deal with the matter more fully in a future report. At present, however, it may be stated that in so far as Europeans are concerned, the indications are that approximately 45 per cent. of infantile deaths are the result of pre-natal causes or are associated with complications of labour many of which are preventable by adequate pre-natal care and greater obstretrical skill. With regard to non-Europeans, the figures confirm the accepted opinion that the appalling infantile mortality is mainly the result of the depressed economic conditions of this section of the population; the large proportion of non-European infantile deaths from diseases of the respiratory system (488 in 1939/40 and 524 in 1940/41), and from diseases of the digestive system (493 in 1939/40 and 444 in 1940/41) are undoubtedly largely the result of poverty, poor housing conditions, and ignorance of satisfactory methods of feeding and care of infants.

MATERNAL MORTALITY (ALL RACES).

	Puerperal Sepsis per 1,000 Births					Other Causes per 1,000 Births					All Causes per 1,000 Births				
	Europeans	Eurafricans	Natives	Asiatics	All Races	Europeans	Eurafricans	Natives	Asiatics	All Races	Europeans	Eurafricans	Natives	Asiatics	All Races
1939-40	0·84	1·31	6·26	1·47	2·04	1·55	3·94	7·61	4·41	3·15	2·39	5·26	13·87	5·88	5·19
1940-41	0·14	2·46	3·76	1·62	1·27	1·30	2·46	4·89	3·24	2·36	1·44	4·92	8·65	4·86	3·63

The rate for all causes in respect of Europeans is appreciably lower than in 1938/39 (3·80) and at 1·44 is the lowest yet recorded for the city.

INFECTIOUS DISEASES.

The diseases which are notifiable in Johannesburg are those specified in Section 18 (1) of the Public Health Act and subsequent amendments. In addition, in terms of Government Notice No. 310, dated 25th February, 1938, Pemphigus Neonatorum was added by special request of the City Council.

Details of cases notified during the two years under review are shown in Annexure E.

The investigation of notifiable diseases is carried out in the Central Areas of the City by the Infectious Diseases Inspector, and in the outlying suburbs by the Divisional and District Health Inspectors. Tuberculosis cases, other than mining Natives, and ophthalmia cases are investigated by Health Visitors, and puerperal sepsis and pemphigus neonatorum cases are investigated by the Inspectress of Nursing Homes and Midwives.

Notification of Infectious Diseases.—In general, the early notification of infectious cases is the rule—particularly as regards Diphtheria, Scarlet Fever and C.S. Meningitis. The position as regards the notification of Typhoid cases is far from satisfactory. A notification is usually received between two to three weeks after the onset of the disease and in many cases the notification is only received after a request is made by the Health Department. Very frequently a case is sent into hospital by a private practitioner as a suspected case of typhoid and apparently as the case is only suspected, no notification is sent. When the case in hospital is proved to be Typhoid it is very often assumed that the practitioner has already notified it so that the case is liable to remain unnotified. Many practitioners wait until a case has been proved bacteriologically before sending a notification. The onset of the disease is usually about two weeks after infection and a positive widal is not usually obtained until about a fortnight after the onset consequently investigations into a case deal with matters which have occurred about a month before the case has been brought to the notice of the Health Department.

The early notification of typhoid cases is essential for a satisfactory investigation into the source of infection, particularly in milk-borne outbreaks. Suspected cases should be notified as such. Should the provisional diagnosis be confirmed much valuable time is saved.

Unsolicited notifications in the outbreak of Poliomyelitis were rare, the majority of cases being brought to the notice of the Health Department by the parents of other cases.

Scarlet Fever.—There was, until June, 1941, no appreciable variation in the average weekly number of notifications received. In June the numbers gradually increased, to develop later into what proved to be the greatest epidemic of scarlet fever experienced in Johannesburg, details of which will appear in the annual report of next year.

Diphtheria.—There was a fairly marked increase in the number of cases during March and April, 1941. This increase cannot be described as an outbreak, the cases being sporadic and evenly distributed over the municipal area.

Typhoid.—An outbreak of interest affecting eight persons, including one native, is worth recording. Within a period of seven days, seven children contracted typhoid, the younger taking ill earlier than older children. On investigation it was found that the milk supplied to five of the households came from the same milk depot. Further investigation of the two other cases revealed that though generally the milk came from other dairies, they had purchased about two weeks before the onset of the disease, cream which had been supplied by the depot. The proprietor of the depot, immediately suspicion attached to him, was ordered to have all his milk and cream pasteurised until further notice. The staff of the suspect depot was then examined, and while taking blood for Widal test it was found that one of the delivery boys was running a temperature.

He volunteered the information that he had taken ill the day after the onset of the last European case but that he did not feel sufficiently sick to stay away from work after the first day. He was immediately sent to hospital where his condition was proved to be due to typhoid. All employees of the supplying dairy farmers were examined without any satisfactory result. Four suspects were detained at the Vrededorp municipal hospital and exhaustive tests were carried out, all with negative results.

It was assumed that only one batch of milk was infected and that all patients, including the delivery boy, were infected on the same day.

Poliomyelitis.—It appeared, during the latter part of 1940, as if a serious outbreak of infantile paralysis would occur. There was a gradual increase during the latter part of the year, but after the first fortnight of 1941, no further case was notified.

Smallpox.—A case which is of particular interest is recorded. The Rietfontein Hospital notified the Department that a native woman living outside Johannesburg had contracted smallpox, and that her husband lived and worked in a local bakery. The boy was interviewed and asserted that he had not seen his wife for over three weeks. As a precautionary measure the employer was instructed to put the boy on yard and stable work, to house him in a room to himself and to have him and all his staff vaccinated and to call in medical advice if the contact showed any symptoms. Within ten days the boy reported ill and was immediately isolated in hospital, where a diagnosis of smallpox was made. No further case occurred.

Hospitalisation of Infectious Cases.—During 1939 and 1940 extensive additions and alterations were carried out to the Council's Fever Hospital for Europeans, at a cost of approximately £30,000. This work included the erection of an additional observation block and new nurses quarters, the provision of additional heating plant and modernisation of the laundry equipment and plant, reconstruction of the laundry and extensions to the Native quarters. The normal complement of the Fever Hospital is now 99 beds; the observation wards have 19 and 20 beds for males and females respectively, the two diphtheria blocks 12 beds, and the scarlet fever block 36 beds.

Typhoid cases and puerperal sepsis cases are not treated in the Fever Hospital. Cerebro-spinal meningitis cases are usually admitted but are occasionally treated in the isolation wards of the various hospitals or in private wards at the various nursing homes. Except under special circumstances, erysipelas cases requiring hospitalisation are not treated elsewhere than at the Fever Hospital, and under no circumstances are scarlet fever or diphtheria cases permitted in any nursing home or General Hospital.

Details of the number of cases treated at the Fever Hospital during the two years under review are as follows (in each case the 1940/41 figure is in parentheses): Scarlet fever 268 (344), diphtheria 254 (369), meningitis 44 (87), erysipelas 34 (38), measles 28 (68), german measles 19 (70), chickenpox 7 (13), mumps 24 (47), whooping cough 3 (6), thrush 1 (nil), vincent's angina 2 (1), influenza 1 (3), tonsillitis 1 (nil), typhoid 1 (3), anthrax 1 (nil), tick-bite fever nil (3), poliomyelitis nil (1), heat exhaustion nil (1), venereal disease nil (3), malaria nil (1), herpeszoster nil (1), encephalitis nil (1). Totals: 1939/40, 688 patients; 1940/41, 1,060 patients, including 212 military cases. Total number of patient days: 18,327 during 1939/40, and 22,819 during 1940/41. The gross expenditure (excluding capital expenditure) for the two years was £18,196 6s. 7d. and £20,459 0s. 8d. respectively.

During 1939/40 the following non-European infectious disease and other cases were treated at Rietfontein Hospital at a cost of £466 7s.: Chickenpox 35, diphtheria 29, measles 24, smallpox 11, smallpox contacts 18, pellagra 13, tonsillitis 5, erysipelas 4, mumps 4, varicella 2, whooping cough 1, scarlet fever 1. Total 147.

During 1940/41 the following non-European infectious disease and other cases were treated at Rietfontein Hospital at a cost of £273 11s. 6d.: Varicella 19, smallpox 1, smallpox contacts 3, diphtheria 18, pellagra 17, impetigo 13, measles 13, paraphimosis 9, scabies 4, dermatitis 3, mumps 2, erysipelas 1. Total 103.

During the two years under review it was necessary on several occasions to provide hospitalisation for non-European infectious disease cases elsewhere than at Rietfontein and arrangements were made with the Medical Superintendent of the General Hospital for such cases to be accommodated in wards set aside for the purpose at the non-European Hospital and placed in the care of specially engaged nurses who were paid by the Council. The expenditure in this connection was £950 during the financial year 1940/41.

Further information concerning the need for additional hospital accommodation for non-Europeans and the measures to be taken by the Council in the near future to provide suitable accommodation for non-European tuberculosis and infectious cases will be found in the section of the report dealing with "Health Services for Non-Europeans."

Disinfecting Facilities.—The following facilities are available at the disinfecting station for cleansing infected and verminous articles: 1 "Equifex" disinfector 4 feet diameter by 8 feet long; 1 "Equifex" disinfector 6 feet diameter by 12 feet long; 1 formalin chamber 7 feet 6 inches by 4 feet by 7 feet 6 inches high; 1 portable hot-air delouser 8 feet 8 inches by 4 feet 6 inches by 4 feet 6 inches high. In addition there is a large brick fumigating chamber built originally for fumigating personal effect of tenants before being transferred to the municipal housing schemes.

Facilities for the disinfection of contacts of infectious cases and for the cleansing of verminous persons comprise two bathrooms each for European males and females and one bath for non-European males and two baths for non-European females.

Ambulance Fleet and Personnel.—A staff of seven Europeans and twelve natives is employed by the Department for the ambulance service in connection with the removal of infectious cases, for the disinfection of infected premises and clothing, for the cleansing of verminous persons, for the transport of children attending the Council's Nursery Schools to the various clinics, for the transport of stores to the Council's clinics, for the maintenance of all the vehicles used in connection with the above, and in addition for the maintenance of all the vehicles used by other sections of the Department.

The European staff comprises the Senior Disinfecting Inspector, five Disinfecting Inspectors, and a Disinfecting Engineer. The Senior Disinfecting Inspector and two of his assistants are qualified motor mechanics and maintain the Department's fleet of vehicles in good running order; the increase in the number of vehicles during the past few years requires that one of these officials devote his full time to mechanical work. Two additional temporary Disinfecting Inspectors were appointed to the staff during the two-year period in which the following additions and alterations were made to the fleet of vehicles: Two Studebaker ambulances were purchased, one Chevrolet van was purchased for anti-rodent activities, one Chevrolet van was purchased for disinfecting work—thus reducing the mileage of the more costly and heavier ambulances, one Chevrolet van was purchased for the transport of stores, one Oldsmobile vanette was purchased for transporting stores and equipment to the various sub-economic housing schemes under the control of the Department. Two of the old ambulances were put into reserve for use in the C.P.S.

The vehicular establishment as at 30th June, 1941, is six ambulances, one van for disinfecting work, one van (converted ambulance) for nursery school transport, three vans for anti-rodent work, two vans for delivery of stores and equipment to clinics and housing schemes. In addition, two old ambulances are kept in reserve and maintained in running order on behalf of the C.P.S. organisation, and the van used for transporting stores, etc., to the clinics can be readily converted into an ambulance in case of emergency. During 1939/40 the ambulances moved 1,180 cases and travelled 34,237 miles, the corresponding figures for 1940/41 being 1,434 and 36,925 respectively. The number of nursery school children transported during the same years were 1,365 and 2,531 respectively.

The number of premises disinfected during 1939/40 was 1,522 and 27,552 articles were disinfected, including 2,204 mattresses. The corresponding figures for 1940/41 are 1,391, 23,231 and 2,129.

TUBERCULOSIS.

The previous annual report includes a comprehensive statement concerning tuberculosis in Johannesburg. The position has not altered materially to the extent that any modification of such statement is necessary, except that the Council has taken active measures to provide hospital accommodation for non-European cases. Full details are given in sub-section (a) of the section of this report dealing with health services for non-Europeans.

In so far as Europeans are concerned the activities of the Tuberculosis Health Visitor have made it clear that a clinic is required for such cases: the necessary authority has been given by the Council and this need is to be met in the very near future.

Annexure F gives details of notifications and deaths during the ten-year period 1931-41.

The following table gives particulars relating to all forms of tuberculosis during the triennium 1938-41 (pulmonary cases and other cases are shown separately in the table on page 8 of this report):

	1938-39			1939-40			1940-41		
	Notifi-cations	Deaths	Rates	Notifi-cations	Deaths	Rates	Notifi-cations	Deaths	Rates
Europeans	87	66	0·23	106	68	0·24	81	58	0·21
Mining Natives ...	—	—	—	218	62	1·00	200	70	1·13
Non-Mining Natives	—	—	—	407	327	1·84	504	362	1·96
All Natives ...	428	311	1·54	625	389	1·62	704	432	1·75
Eurafricans ...	46	52	2·22	68	56	2·33	66	46	1·88
Asiatics	8	17	1·55	13	11	0·98	16	11	0·96
All persons ...	569	446	0·86	812	524	0·93	867	547	0·98

The increase in the number of notifications during the two years 1939 to 1941 does not represent the increase in incidence in these two years, but is, undoubtedly, the result of better notification of cases following the reorganisation, early in 1939, of the Medical and Health Services in the Council's Native Locations.

On 1st July, 1939, 39 Johannesburg cases of tuberculosis were being treated at Springkell Sanatorium Tuberculosis Hospital; during the ensuing twelve months 63 cases were admitted, 14 died and 46 were discharged; the cost of treating these cases was £7,126 19s. 2s. During the twelve months ended 30th June, 1941, the cost of treatment was £6,502, and during that period 46 cases were admitted, 12 died and 44 were discharged. In terms of the Public Health Act 50 per cent. of the cost of treatment was refunded by the Union Health Department and 25 per cent. by the Provincial Administration. During the twelve months ended 30th June, 1940, 73 non-European tuberculosis cases from Johannesburg were treated at the Rietfontein Tuberculosis Hospital, and during the subsequent twelve months the number of cases treated was 103. The net cost to the Council for the treatment of these cases was £984 13s. 2d. during 1939/40 and £1,005 19s. during 1940/41.

VENEREAL DISEASE.

The annual report in respect of the year ended 30th June, 1939, dealt extensively with the venereal disease services rendered by the Council. The proposed changes in organisation referred to therein were put into effect and are functioning satisfactorily. The following tables give details of attendances at clinics, etc:

VENEREAL DISEASES CLINIC (EUROPEANS).

Attendances and Diseases.

Number of New Patients	Gonorrhœa		Syphilis		Soft Chancre		Not V.D.		Total	
	M	F	M	F	M	F	M	F	M	F
1939-40	565	122	239	180	9	1	26	9	839	312
1940-41	412	80	210	144	2	—	16	4	640	228
Attendances of Old Patients										
1939-40	4,563	772	5,053	4,014	43	—	37	9	9,696	4,795
1940-41	2,921	627	4,648	4,149	9	—	42	10	7,620	4,786

During 1939/40 662 patients were treated with neosalvarsan or arsenical preparations and 7,860 doses were administered.

During 1940/41 638 patients were treated with neosalvarsan or arsenical preparations and 7,813 doses were administered.

Results of Specimens Examined.

Year	Clinic						S.A. Institute for Medical Research									Total Number of Specimens Examined
	Gonococci		Spirochætes		Others		Gonococci		Spirochætes		Wasserman Test					
	+	–	+	–	+	–	+	–	+	–	+++	++	+	–	?	
1939-40	79	87	—	—	34	57	163	151	—	—	291	16	6	265	17	1,166
1940-41	78	113	—	—	18	32	117	164	3	1	238	4	10	283	17	1,078

VENEREAL DISEASES CLINIC—NON-EUROPEAN HOSPITAL.

Attendances and Diseases.

Number of New Patients	Gonorrhœa		Syphilis		Soft Chancre		Not V.D.		Total	
	M	F	M	F	M	F	M	F	M	F
1939-40	—	—	368	378	—	—	—	—	368	378
1940-41	4	—	441	505	—	—	—	—	445	505
Attendances of Old Patients										
1939-40	—	—	2,126	2,556	—	—	—	—	2,126	2,556
1940-41	17	—	4,574	5,711	—	—	—	—	4,591	5,711

During 1939/40 489 patients were treated with neosalvarsan or arsenical preparations and 4,718 doses were administered.

During 1940/41 1,072 patients were treated with neosalvarsan or arsenical preparations and 10,369 doses were administered.

Results of Specimens Examined.

Year	Clinic						S.A. Institute for Medical Research											Total Number of Specimens Examined
	Gonococci		Spirochætes		Others		Gonococci		Spirochætes		Wasserman Test					Others		
	+	–	+	–	+	–	+	–	+	–	+++	++	+	–	?	+	–	
1939-40	6	3	—	—	1	1	11	9	—	—	76	23	13	23	4	3	—	173
1940-41	—	—	—	—	—	—	—	—	—	—	124	35	8	83	12	—	—	262

Details of attendances at the Venereal Diseases Clinics in the Native locations are given in Annexures G and H.

INSTRUCTIONS ON VENEREAL DISEASES.

As in the past courses of instruction have been given at the " Centres " to the following groups:

(1) Fifth and sixth year medical and dental students of the University of the Witwatersrand.

(2) Members attending the Diploma of Public Health course of the University.

(3) The students attending the health visitors' and school nurses' course under the auspices of the Witwatersrand Technical College.

Rietfontein Hospital.

The numbers of Johannesburg cases of venereal disease treated at Rietfontein Hospital were:

	Europeans.		Non-Europeans.	
	1939/40.	1940/41.	1939/40.	1940/41.
Syphilis	46	41	2,059	2,265
Gonorrhoea	28	9	528	687
Gon. Ophthalmia	4	—	11	6
Ulc. Molle	2	—	100	—
Ven. Warts	4	—	35	—
Totals	84	50	2,733	2,958

PLAGUE PREVENTION AND ANTI-RODENT ACTIVITIES.

No case of plague occurred during the period under review.

The general work of this section has been carried on in spite of the curtailment of staff owing to war conditions. In addition to the Rodent Inspector and Junior Rodent Inspector, the staff, at the end of June, 1941, consisted of 12 ratcatchers and 16 ratcatching youths. The distribution of this staff was as follows:

	Ratcatchers.	Ratcatching Youths.
City	8	4
Eastern Native Township	1	2
Pimville Native Township	1	2
Orlando Native Township	1	2
Mobile Gang	1	6

The two Rodent Inspectors and 10 of the ratcatchers have a knowledge of rodents and the signs of rodent infestation and mortality. Both the Inspectors and all the ratcatchers are trained in anti-rodent work, including the use of cyanogas.

During the year ending 30th June, 1940, a total of 23,917 rats were caught in the city by the staff and received at the central depot at Newtown, as well at 2,167 mice. Besides this total 3,397 rats were caught in the Western and Eastern Native Townships. 3,303 rats were sent to the South African Institute for Medical Research for investigation as to plague infection, but all reports received were negative.

In the period ending 30th June, 1941, the total number of rats caught in the city was 20,590, mice, 2,274; also in the Western and Eastern Native Townships 3,339 rats were caught. 3,339 rats were sent for examination; again with negative results.

A safety zone approximately three miles in width continues to be maintain around the municipal boundaries. This means that in an area of approximately 140 square miles constant anti-rodent measures are employed, and during the year ended 31st June, 1940, 137 lbs. of cyanogas calcium A dust were used, and 58 Capex cartridges. This compares with 105½ lbs. cyanogas calcium A dust and 2 lbs. of poisoned wheat utilised in 1940/41.

The Junior Rodent Inspector supervises this section with a staff consisting of one ratcatcher and six ratcatching youths. He examines for signs of rodent mortality and for re-infestation of areas previously cleared. Rodent prevalence was found in the following areas, and destruction was carried out:

Rietfontein and surrounding areas.

Elandsfontein No. 26 and surrounding areas.

East of Haddon Township and surrounding areas.

Ormonde No. 18 and surrounding areas.

Diepkloof Reformatory and surrounding areas.

West of Orlando and Klipspruit 49.

All rodents found dead were sent to the South African Institute for Medical Research for examination, but none were reported to be plague infested.

The extent of anti-rodent measures in the Native townships during the period under review are reflected in the following table.

	Orlando		Pimville		E.N.T.		W.N.T.	
	1939-40	1940-41	1939-40	1940-41	1939-40	1940-41	1939-40	1940-41
Houses inspected	3,162	2,802	1,198	2,575	4,956	3,350	2,584	4,576
Houses treated with cyanogas	2,179	2,431	1,816	2,273	1,266	186	1,188	346
Rodents killed	4,104	4,677	3,919	4,500	3,866	1,077	4,550	1,731
Cyanogas used (lbs.) ...	373	208	392	168½	293¼	63½	262½	74

In the case of both Eastern and Western Native Townships, trapping was carried out on the outskirts to prevent further ingress of rodents.

Prior to demolition, all buildings are gassed; in 1939-40 158 premises were so treated, and in 1940-41 a total of 168.

In order to enforce the Governmnt Rodent-proofing Regulations, two Health Inspectors with suitable training were maintained on this work on a whole-time basis until October,1940, when depletion of staff due to war conditions necessitated that they had to undertake additional routine duties as well, with a resultant reduction in the number of inspections made. This work is supplemented by the activities of the ratcatching staff and also of the inspectorate section.

Year.	Inspections.	Notices Served.	Buildings made Rodent-proof.	Plans Examined.
1939/40	2,728	153	152	176
1940/41	276	26	51	43

Sixty certificates were issued during 1939/40 in terms of Clause 3 (b) of the Regulations regarding the Prevention of Rodent Infestation of Buildings and Premises in Urban Areas. Much of the time of the Inspectors was devoted to explaining to builders, architects and owners the application and demands of the Regulations. It is anticipated that these discussions will bear satisfactory results in the future.

The following table gives details of grain stores and mills in Johannesburg:

Year.	Combined Grain and Forage Stores.	Grain Stores.	Forage Stores.	Mills.	Matters dealt with in other places, stores, etc., generally.
1939/40 ...	64	6	4	17	344
1940/41 ...	65	6	4	17	251

The types of rodents most commonly found in houses and stores are: Rattus rattus alexandrinus, rattus rattus frugivorus, and mus musculus.

MATERNAL AND CHILD WELFARE MEASURES.

The activities of the Maternal and Child Welfare section have proceeded satisfactorily during the two years under review, the staff of Health Visitors having been increased to 15 during the latter twelve months. At 30th June, 1941, the following clinics were being held weekly: Europeans: 1 Post-natal, 4 Ante-natal, 11 Child Welfare; Coloured: 3 Child Welfare; Asiatics: 1 Child Welfare.

The Council's five ante-natal nurses attend 820 confinements during the years 1939/40 (462) and 1940/41 (358), and the attendances at the Ante-natal Clinics during the same two years were 4,750 and 5,248 respectively.

The following tables give details of the activities of the health visiting staff:

1. GENERAL SUMMARY—EUROPEANS.

Year.	Number of Visits.		Mother's Attendances at		Cases Referred to Pediatric Officer.	Attendances at Ante-natal Clinic.	Assisted at Clinics.
	First Visits.	Re-visits.	Welfare Clinics.	Health Visitors' Office.			
1939/40	6,211	13,157	34,468	110	1,056	4,750	16,984
1940/41	6,011	12,698	32,980	82	860	5,248	16,268

2. BIRTHS INVESTIGATED.

Year.	Attended by			
	Doctor.	Trained Midwife.	Untrained Midwife.	Friends.
1939/40	2,800	5,467	1,017	30
1940/41	2,754	5,294	867	12

3. METHOD OF FEEDING.

Year.	Breast Milk.	Cow's Milk.	Other.
1939/40	5,255	357	799
1940/41	4.651	360	793

4. EURAFRICANS.

Year.	First Visits.	Re-visits.	Attended by		
			Trained Midwife.	Untrained Midwife.	Friends.
1939/40	928	1,438	305	553	65
1940/41	883	1,483	269	546	65

5. ASIATICS.

Year.	First Visits.	Re-visits.	Attended by		
			Trained Midwife.	Untrained Midwife.	Friends.
1939/40	647	2.646	299	367	12
1940/41	621	2,397	289	332	4

Particulars of health and medical services amongst the native population are given in a separate section of this report.

SUPERVISION OF PRACTISING MIDWIVES AND NURSING HOMES.

A full-time Inspectress of Midwives and Nursing Homes is employed.

(a) *Administration of Regulations Regarding Persons Practising Midwifery.*

The number of midwives listed in accordance with the above-quoted regulations is as follows:

	1st. July, 1939.	Removed from list during year.	Listed during year.	30th June, 1940.	Removed from list during year.	Listed during year.	30th June, 1941.
European (certificated) ...	297	35	79	341	59	45	327
European (uncertificated) ...	40	2	1	39	5	—	34
Non-European (certificated) ...	27	5	16	38	2	12	48
Non-European (uncertificated)	28	—	—	28	4	—	24
	392	42	96	446	70	57	433

The registers of all listed midwives and the midwifery bags of all uncertificated midwives were examined each quarter, and the midwifery bags of certificated listed midwives were examined in October and April of the years under review. At the time of these inspections every effort was made to ensure that practising midwives knew and understood the regulations regarding persons practising midwifery.

All notified cases of puerperal sepsis were investigated and disinfection of midwives and their appliances was carried out in all such cases. Throat swabs were taken of all nurses in contact with puerperal sepsis cases, and where the result of such swabs indicated the presence of haemolytic streptococci, the necessary action was taken to prevent any spread of infection until negative swabs had been obtained.

(b) *Nursing Homes.*

At the commencement of the period under review there were thirty-two private hospitals and nursing homes, and at 30th June, 1941, there were thirty-seven, two having closed down and seven new institutions having opened up.

All plans submitted for alterations and additions to nursing homes were carefully examined, and frequent consultations took place with owners, architects and builders, with satisfactory results.

NURSERY SCHOOLS.

The Nursery Schools at La Rochelle and Ophirton were transferred from 9 First Street to 42a Pan Road (on 1st February, 1940), and from 36 Mewett Street to the corner of Mewett Street and Coventry Road (on 1st July, 1939), in each case to more commodious and more suitable premises.

All of the six Nursery Schools were well attended during the two years under review, and an interesting development is the holding of instructional classes for the mothers of the pre-school children who attend. The mothers receive valuable advice from the Supervisor in the up-bringing of their pre-school children, and it is gratifying to note that they are extraordinarily keen to learn and to put into practice the advice given. All the children are regularly examined by the Pediatric Officer and their mental condition and development is attended to by the Council's Psychiatrist. The Psychiatrist also gives a course of instruction in psychology and psychiatry to the Supervisors and Assistant Supervisors of these schools. The children attending these schools, all of whom are the children of indigent parents and between two and six years of age, are given simple health exercises and are instructed in such simple hygienic measures as head and body cleanliness, teeth cleaning, etc., etc., interspersed with occupational instruction, games, physical exercises and general social behaviour. They receive a daily ration of one-third of a pint of pasteurised milk and are weighed and have their body measurements taken at regular and frequent intervals.

Dental care of pre-school children is a particular object. All pre-school children attending the Nursery Schools are taken by the Supervisor to the Johannesburg Coronation Dental Infirmary, which was officially opened in August, 1939. The sight of these toddlers going gaily in our motor van with the Supervisor to the school clinic, and at the clinic opening their small mouths to the sympathetic dental officers without the smallest qualm is a spectacle which requires to be seen to be realised and is a tribute to their faith in their Supervisors and the kindliness of the dental officers.

Since 1st July, 1936, the Provincial Education Department has subsidised the Council's Nursery Schools to the extent of £3 per pupil per annum, with a limit of subsidy of 50 per cent. of the wages of the teaching (supervising) staff. It is only proper that the Provincial Education Department should so subsidise, especially as principals of schools whereat new scholars are received at school age are fairly unanimous in their opinion that it is quite easy amongst entrants to recognise the Nursery Schools entrants from their physical conditions and mental outlook. The subsidy amounts approximately to £700 per annum.

An important innovation at the Nursery Schools was the arrangement made in conjunction with the Department of Physical Education of the Witwatersrand Technical College whereby, as from August, 1940, suitably trained and qualified members of the college staff have conducted regular physical training classes for the children attending the Nursery Schools and weekly classes for the training of the Nursery School staff. The Council pays the sum of £250 per annum for this service.

A more important innovation was the adoption by the Council of the policy of providing a midday meal for the children attending the Nursery Schools. Various practical difficulties have prevented the desired progress being made in this direction, but it is anticipated that rapid progress will be made as soon as the Department overcomes the difficulties concerning the purchase and delivery of the necessary equipment and the recruitment of suitable Nursery School staff.

The apparent need for increasing the number of Nursery Schools and the provision of more suitable accommodation and equipment for the existing schools has not been overlooked. Should circumstances in the near future not prevent the acquisition of the necessary equipment and the appointment of the necessary staff three additional schools are soon to be opened in specially constructed and equipped premises at the Maurice Freeman Housing Scheme, Jan Hofmeyr Township Housing Scheme, and in Brixton. In addition the Council has purchased the stand adjoining the Vrededorp Nursery School with the intention of extending the school grounds and making additions and improvements to the building.

HEALTH SERVICES FOR NON-EUROPEANS.

(a) *General.*

The 1938/39 report of the late Medical Officer of Health included a detailed description of the history and development of the health services conducted by the Council in its four native townships (Orlando, Pimville, Eastern Native Township and Western Native Township) and at the time it was stated that although considerable improvement had been effected in providing preventive and curative services for a combined population of about 70,000 persons " it should be realised that without a considerable increase in the staff employed, combined with the provision of proper hospital facilities, they must inevitably remain inadequate." The report continued that it was desired to emphasise that the provision of such facilities was " the duty of the Provincial Administration, and were the Council relieved of the necessity of undertaking curative services it could carry out very much better its true function of preventive medicine." It was also stressed that under the circumstances obtaining at that time " the financial contribution towards such services which the Council can advisedly bear must be limited, with the result that just by so much as it bears the burden for the curing of disease so must its efforts in the preventive sphere be limited."

In so far as the Council is concerned with the general aspect regarding responsibility for curative services there has been little material progress in improving the position outlined above. However, in August, 1939, the Principal of the University of the Witwatersrand took the initiative in calling together a conference of various authorities and organisations concerned to " discuss the establishment of dispensary services in native townships and arrangements for dispensary and district practice for final-year medical students."

Owing to the outbreak of hostilities after the invitations had been issued the proposal lapsed, but was revived later, with the result that a meeting was held on 23rd October, 1940, at which the following were represented: The Union Departments of Public Health, Native Affairs, and Social Welfare, the City Council of Johannesburg, the Johannesburg Hospital, and the University of the Witwatersrand.

Arising out of this conference investigations were made into the existing medical and hospital services for non-Europeans, and there can be no doubt that there are serious gaps in such services in so far as both curative and preventive medicine is concerned. The provision required falls under the following headings:

(i) Hospital accommodation for infectious diseases and particularly tuberculosis.

(ii) Maternity hospital accommodation.

(iii) General Hospital accommodation.

(iv) Special hospital accommodation for chronic sick, cripples, etc.

From the above it will be seen that the remedying of existing deficiencies in health services for non-Europeans is a problem of some complexity in which the Union Departments of Public Health, Social Welfare, Native Affairs, the Provincial Administration, the Johannesburg Hospital Board, the local Native Affairs and Public Health Departments, and the University of the Witwatersrand are all intimately concerned.

One cannot avoid the conclusion that the best solution lies along the road of co-operation between the authorities concerned, and that such co-operation might be effected by centralising all the services under the administration of the local authority acting as the local agent for all the parties, while the responsible Government departments and the Provincial Administration subsidise those sections which legitimately fall within their spheres.

The City Council considered this matter in January, 1941, and appointed a sub-committee to discuss the suggestions adumbrated above with the authorities mentioned, but owing to various unforeseen circumstances partly due to the war, it has not yet been possible to convene a meeting for this purpose.

In the meantime the Council has decided to deal with the most urgent of these problems and has approved of a scheme which involves the conversion of a portion of the newly erected native compound at Waterval into a temporary hospital for the accommodation of 135 non-Europeans. The scheme provides for the hospitalisation of 32 male tuberculosis cases, 32 female tuberculosis cases, 36 infectious disease cases (women and children), and 35 medical and surgical cases (Council employees) but the provision of several comparatively small wards will make it possible to vary this distribution should circumstances so require. It is hoped that it will be possible—notwithstanding present difficulties in respect of building work—to proceed with the project without delay if and when the necessary approval of the Minister of Public Health is received.

(b) *City Council's Native Townships.*

The curative and preventive health services in the Council's native townships have been continued during the two years under review under the administration of the Public Health Department, the expenditure being borne on a half share basis with the Non-European and Native Affairs Department.

The most noteworthy developments of this branch of the Department's activities are: (a) The provision of new clinic buildings at Orlando, Pimville and Western Native Township and the improvements and alterations effected to the existing clinic building at Eastern Native Township, at a total cost of approximately £5,600; (b) the alteration and additions to the Orlando Cottage Hospital as the result of the generosity of Councillor Mr. D. F. Corlett, J.P.; (c) the increased staff establishment; (d) the increased attendances at clinics and the increased number of " home visits " by the staff.

The provision of more commodious clinic accommodation and adequate equipment in all townships, the additional accommodation at Orlando Cottage Hospital, including facilities for the treatment of emergency " out-patient " cases when the clinic is closed, the provision of additional nurses' quarters at Orlando by conversion of the old clinic building, the provision of a laundry at Orlando and suitable store-rooms at all townships, and the improvements effected in the layout of the grounds at these various sites, have all made it possible to cope with the large increase in work and have also contributed to make working conditions more suitable to the activities of the professional, nursing and clerical staff employed. The question of responsibility for the maintenance of the buildings used in connection with these services has been considered and arrangements have been made that the Non-European and Native Affairs Department will maintain all the buildings in a proper state of repair and the Public Health Department will pay to the former an annual rental equal to 4 per cent. of the cost of the buildings.

Annexures G and H give details of the attendances, etc., at the various clinics for the two years 1939/40 and 1940/41; the general all-round increased attendances is a tribute to the efforts of the staff and is evidence of the fact that the township residents are becoming increasingly conscious of the value of the services provided.

It is noticeable that in 1940/41 there was a general decrease in the number of first visits to the dispensary or " out-patient " clinic at all townships, excepting Eastern; this is attributed to the fact that, particularly in the townships other than Eastern (where only comparatively minor improvements were effected), the 1939/40 period was in the nature of an " expansion " year when improved accommodation and more adequate facilities were provided, with the result that there was probably an abnormal number of persons attending the clinic for the first time. The fact that the number of first attendances has decreased considerably emphasises the importance of the increased number of revisits, indicating as it does that the residents in the townships are taking good advantage of the facilities available and that they are becoming increasingly aware of the value of the services.

It is also significant that the number of attendances at the Ante-natal and the Child Welfare Clinics has increased considerably, also that the number of home visits by the staff of native nurses and native orderlies has increased by no less than 14,000 visits, this being an important feature which will be extended as far as possible because of the necessity of encouraging the residents to realise the value of the facilities available, and because of the necessity of promoting " health education " amongst the Bantu population—an object which can best be achieved by direct contact with trained workers of their own race.

The necessity of increasing the staff was stressed in the previous report and the City Council has authorised additional appointments, with the result that as from 1st July, 1940, the authorised establishment has been as follows, but owing to the fact that the necessary approval of the Minister of Native Affairs was not received until April, 1941, all the additional appointments have not yet been made.

	Medical Officers.	Dental Officers.	Health Visitors.	Nurses (Native).	Clerk Orderlies (Native).	Dentists' Assistants (Native).	Population (Estimated at 30/6/41.
Orlando	2		2	27	8		40,000
Pimville	1		1	8	5		12,000
Eastern Native Township ...	1		1	4	2		4,300
Western Native Township ...	1		1	8	4		15,000
Totals	5	2*	6†	47	20†‡	3*	71,300§
Staff employed as at 30th June, 1941	5	2	6	39	11	3	

* For the four townships.

† Including one as auxiliary and relief.

‡ This new establishment provides that the officials concerned will operate as Clinic Clerk Orderlies and Health Assistants to European Health Inspectors to be employed in the native townships, but as the appointment of the necessary European personnel will be impossible owing to war conditions, the new arrangement will probably not be put into operation until the cessation of hostilities.

§ The figures for each township are based on the number of houses and details of occupation known to the Council's staff, but it is generally considered that an estimated total of 80,000 would not be excessive if allowance is made for " permanent " visitors and unauthorised sub-tenants.

In addition to the personnel referred to above the Council employs, in a part-time capacity, a medical officer, who examines native females seeking employment through the Council's Native Employment Bureau. As the result of experience gained at this " centre " and because the work at the " Special Treatment Centre " at the Non-European Hospital has increased to the extent that additional assistance is required there, the Council decided towards the end of the period under review to appoint a full-time medical officer at the medical examination centre, and to make provision for the treatment of cases found to be suffering from venereal disease. (The necessary approval of the Minister of Native Affairs was received during August, 1941, and the Council's decisions were immediately put into effect.)

It is the policy of the Council to employ as large a number as possible of trained native nurses who possess both general nursing and midwifery certificates, but it appears, from the experience of the Department, that the number of persons so qualified is far less than the number required throughout the country. The staff employed by the Council includes a limited number of nurses who possess only one of the certificates mentioned; in such cases their duties are arranged in accordance with the qualification held.

Efforts are made in all townships to co-operate with the responsible officials of schools and institutions which have not made separate arrangements for the medical and dental care of scholars and inmates.

The Council's sub-economic housing schemes for coloured persons which have been established at Coronationville and Noordgesig are within reasonable distance of Western Native Township and Orlando respectively, and arrangements have been made for residents in the two former townships to attend the clinics at the latter, possibly until such time as the coloured townships expand to a size which will justify the establishment of special services in those townships, provided also that there is an improvement in the present unsettled conditions. Notwithstanding the foregoing, a Child Welfare Clinic was established in Coronationville as from 29th May, 1941.

Negotiations are now in progress with the Assistant Health Officer in Johannesburg regarding the question of part-refund of that portion of the expenditure on health services in the native townships which may be considered as refundable in terms of the Public Health Act, and it is hoped that it will soon be possible to arrive at some formula which may be submitted to the Union Health Department for consideration.

WATER SUPPLY.

The city derives its water supply from the Rand Water Board, which delivers water in bulk to seven service reservoirs, with a total capacity of 32 million gallons, belonging to the Council. The supply is adequate, the Council having purchased 5,585,154,800 gallons during the year ended 30th June, 1940, and 5,948,910,700 gallons during the year ended 30th June, 1941, the daily average consumption for each of these years being 15,297,000 and 16,303,000 gallons respectively.

The Board's sources of supply, which are outside the municipal area, consist of the Vaal River and two series of boreholes located in the Klip River Valley, to the south and to the west of Zwartkopjes main pumping station, and wells located at the Zuurbekom pumping station. All the Board's service reservoirs are covered and the Council has made provision to cover its open reservoirs; five have been completed; the work on the small reservoir at Yeoville is in progress, and it is anticipated that the work of covering the larger reservoir at Yeoville will be put in hand after the cessation of hostilities.

All water supplied by the Board is purified before being pumped through pipe lines to the Council's reservoirs. Regular sampling of the water is made as it passes into supply; during the twelve months ended 31st March, 1941, 252 such samples were taken; these contained from 1 to 29 organisms per millimetre growing at 37° C., and the average number was 4. Coliform organisms were found on three occasions.

The Council controls the distribution of water throughout the city and owns the reticulation. The system comprises 802·221 miles of mains from 3 inches to 31 inches in diameter, and serves 61,829 consumers. A meter is fitted at each point of supply and the charge to consumers for water consumed is 2s. 11d. per 1,000 gallons up to 25,000 gallons, and 1s. 9d. per 1,000 thereafter up to 250,000 gallons.

An elevated tank of 250,000 gallon capacity is being built on the southern boundary of Forest Hill Township to improve the supply to high levels in the southern suburbs, and it is hoped that the structure will be completed towards the end of 1941. As it was necessary to alter the arrangements of supply for the new elevated tank, a new trunk main was laid down between the new tank and the eastern boundary of Hill Extension Township, at a cost of £10,000. About two-thirds of this pipeline has been completed and is in use, and the whole will be in commission when the new tank is completed.

To enable full use to be made of the elevated tank which was completed at Brixton during the year ended 30th June, 1940, a new trunk main was laid and connected to the existing reticulation to improve the supply to the high levels in this area.

The increasing population in Orlando and Pimville Native Locations necessitated replacing the 3-inch supply main by a 6-inch main at a cost of £5,000, and the 4-inch main to Western Native Township was replaced by a 6-inch main in order to provide the extra water required following the sewering of this location.

The reticulation of all townships within the municipal area, to provide a water supply to all existing houses, was completed during the year ended 30th June, 1940, and only four short extensions totalling 16,602 feet were laid during the year ended 30th June, 1941.

Three sections of mains were renewed, namely, 1,913 feet of 3-inch in Klipriviersberg Estate, 376 feet of 4-inch in Marshalls, and 223 feet of 4-inch in Fordsburg.

The Department's records reveal that there are approximately 300 boreholes in the municipal area. The majority of these boreholes are for the purpose of providing a private water supply to large buildings—mainly residential flats. Before the supply is used in such cases, the water is sampled by the Department's officials and examined to ensure that it is potable.

The Council's bio-chemist has reported as follows in connection with the control of algae in the Yeoville reservoir:

As in previous years growth of the alga phormidium necessitated almost constant dosage with copper sulphate at the rate of 0·15 parts per million.

In December, 1939, the dosage of copper sulphate was reduced to 0·1 parts per million; on 26th November, 1940, the dosing was stopped, and it has not been necessary to restart it.

In November, 1939, a number of worm-like larvae of the gnat chironomus was found in the sludge deposit in the small Yeoville reservoir and about two dozen small goldfish and a similar number of kurper were put into this reservoir, with the result that the numbers of chironomid larvae diminished.

A much worse infection by chironomid larvae occurred in the small Berea reservoir, this reservoir was cleaned and put out of commission for most of the summer of 1939-40.

SUPERVISION OF FOOD SUPPLIES.

The Department employs a staff of two Food and Drug Inspectors, who are engaged entirely on the work of supervision of food supplies. The appointment of a third Inspector has been authorised by the Council but has been held over owing to war-time conditions.

Daily visits are paid to the morning market, regular inspections are made of incoming supplies of foodstuffs, frequent visits are made to premises where food is prepared, manufactured, and exposed for sale, and particular attention is given to the methods of distribution of wholesalers and retailers, and to the labelling of articles covered by the provisions of the Food and Drugs Act and Regulations.

Samples are taken regularly of milk and various foodstuffs exposed for sale and in the course of distribution throughout the city. For reasons of economy, full details are not given in this report of the samples taken and the various foodstuffs condemned. During 1939-40 1,327 samples were taken, resulting in 140 prosecutions, the fines imposed amounting to £673. During 1940-41, 964 samples were taken, resulting in 92 prosecutions, the fines imposed amounting to £421.

It is necessary to record appreciation of the assistance and co-operation in this sphere by the Chief Government Analyst and his staff and the Director of the South African Institute for Medical Research and his staff.

MILK SUPPLIES AND DAIRY INSPECTIONS.

(a) Control of Milk Supplies Inside the Municipal Area.

The demand for milk to meet the requirements of the city continues to increase, amounting to 3,027 gallons per day as compared with 1938/39. Apart from normal causes, this increase is attributed to the convenience afforded the public by the carton milk container, which is sold by almost every tea-room keeper in the city and suburbs, who are licensed purveyors in terms of the Dairy By-laws. The establishment of several large milk-bars in the city is also partly responsible for this increase.

Sources of Milk Supply, 1939/40.

(a) Gallonage of milk arriving daily from outside producers by road	18,050
(b) Gallonage of milk arriving daily from outside producers by rail	14,800
(c) Gallonage of milk produced at local dairies	4,200
	37,050

Sources of Milk Supply, 1940/41.

(a) Gallonage of milk arriving daily from outside producers by road	19,020
(b) Gallonage of milk arriving daily from outside producers by rail	15,040
(c) Gallonage of milk producer at local dairies	4,000
	38,060

The increase in the gallonage of milk arriving by road is due to several concerns acquiring land within a reasonable distance of the city and establishing large producing dairies.

Local Producing Dairies and Milkshops.

Generally these premises are being maintained in a satisfactory condition; licencees of four producing dairies and seven milkshops have been warned that it will be necessary either to obtain new premises or to carry out substantial structural alterations. Strict supervision is being maintained at all hours to ensure that milk is handled in a hygienic manner. The position regarding certain producing dairies is becoming difficult, particularly those situated in residential areas, due to the limited area of grazing now available.

Sale of Milk in Sealed Containers.

The sale of milk in waxed parchment containers continues to increase. At present 6,000 gallons of milk in cartons is sold daily. The manufacture of these cartons by a local firm has increased by approximately 20 per cent. There are 868 licensed purveyors selling milk in sealed containers.

Score Card System of Dairy Inspection.

Scoring under the amended system referred to in the previous report, which recognises suitable ablution accommodation for employees, has resulted in a higher standard of personal cleanliness of employees generally. The "milk-minded" dairyman has maintained the percentage of marks previously obtained. Only two scorings have been possible during the period under review, but nevertheless the efforts of licencees have been gratifying.

Pasteurising Depots.

There has been an improvement in structural conditions of two depots, and modern plant has been obtained for the sterilising of equipment and utensils used in this heat treatment process. Progress is being made in regard to the bacteriological standard of raw milk sent to these depots. It is anticipated that three other firms are to reconstruct their premises and provide the latest type of pasteurising apparatus.

Inspections, Special Reports, etc.

Local Dairies and Milkshops.

Number of Inspections	3,648
,, ,, Special reports to M.O.H.	40
,, ,, milkshops	127
,, ,, milkshop licences refused	1
,, ,, producing dairies	56
,, ,, stock yards (sale of cows only)	5
,, ,, notices served	280
,, ,, plans examined	8
,, ,, attendances at Public Health Licensing Courts ...	22
,, ,, milk sediment tests (street, milkshop, dairies and milk purveyors' premises)	1,020
,, ,, milk sediment tests—good	921
,, ,, milk sediment tests—fair	85
,, ,, milk sediment tests—bad	14
,, ,, warnings given re sediment tests	41
,, ,, prosecutions instituted under the Council's By-laws and Public Health Act	60
Amount in fines paid	£141

(b) CONTROL OF MILK SUPPLIES OUTSIDE THE MUNICIPAL AREA.

Milk Introduced into Johannesburg.

The total numbers of dairy farms from which milk was supplied during the two years under review are 460 and 533 respectively.

These farms are situated in the districts of Standerton, Bethal, Ermelo, Breyten, Witbank, Pretoria, Witwatersrand, Vereeniging, Krugersdorp, Rustenburg, Ventersdorp, Lichtenburg, Potchefstroom, Klerksdorp, in the Transvaal, and Coalbrook, Heilbron, Greenlands, Kopjes, Parys, Kroonstad, Hennenman, Bethlehem, Harrismith, Immigrant, and Paardeberg, in the Orange Free State.

Applications by Dairy Farmers for Permits to Introduce Milk into Johannesburg.

	1939/40.	1940/41.
Applications received	466	538
Applications granted	393	486
Applications refused	13	2
Applications abandoned and held over	60	50

A permit to introduce within the municipality milk or fresh cream on any premises outside the municipal area may be granted for any period not exceeding one year, and all permits expire on the 31st December of the year for which they are granted. No permit is issued until the requirements of the Council's by-laws are complied with.

Applications by Dairy Farmers for Licences to Retail Milk in Johannesburg.

	1939/40.	1940/41.
Applications received	40	28
Applications issued	40	27
Applications held over	—	1

Licences to retail milk within the city are taken out by dairy farmers to enable them to trade direct with the consumer. Licence holders must also be in possession of a permit to authorise the introduction of milk or milk products into the municipal area.

Inspection of Farm Dairies.

Regular and systematic inspections of all dairies at which milk was produced for supply to Johannesburg were carried out. All inspections were recorded, and any infringement of the Dairy By-laws dealt with.

The number of inspections made was 3,924 (1,930 during 1939/40 and 1,994 during 1940/41).

Plans drawn in accordance with the requirements of the Council's Dairy By-laws were supplied to dairy farmers contemplating construction of dairy buildings.

Control of Milk Supplies.

Periodical inspections were made at railway stations inside Johannesburg and on main roads leading to the city, of milk supplies consigned to Johannesburg.

The supplies of milk from unauthorised sources was immediately prohibited.

Tests for Visible Dirt Through Sterilised Cotton Wool Pads.

This test was applied to 960 (460 during 1939/40 and 500 during 1940/41) consignments of milk arriving at railway stations and in transit or at sources of supply. Taken as a whole the results were faily satisfactory, but where tests were found other than satisfactory, investigations were made and the necessary action was taken to correct faulty methods.

Refrigeration of Farm Milk Supplies.

There are now 91 mechanical refrigeration plants in use on dairy farms, an increase of 19 during the two years.

Notwithstanding war conditions and the difficulty of acquiring materials, large sums of money have been spent on dairy enterprise. The state of the fluid milk industry has been more stable during the past year than at any other period, owing, no doubt, to the demand for milk at military camps at different centres of the Union.

Examination of Dairy Herds.

An assistant veterinarian of the Abattoir and Livestock Market Department visits dairy premises producing milk supplies for the city with a view to ensuring the suitability of the herds as producers of milk for human consumption.

During the year 1939/40 497 dairies were visited, and 24,926 cows were inspected, and in the subsequent year the corresponding figures were 228 and 10,148.

Laboratory examinations of bulk samples of milk collected at depots and at railway stations are made with three objects in view:

(1) to serve as a check upon the efficiency of herd inspection for tuberculosis mastitis.

(2) To obtain some idea of the extent to which the milk supplies are contaminated with undulant fever infection.

(3) To overcome, to some extent, the difficulties of frequent inspection of herds situated at considerable distances from Johannesburg.

ABATTOIR AND MEAT INSPECTION.

The Council controls and administers the local abattoir, which is under the direction of the Director of the Abattoir and Livestock Market Department. This institution is one of the most modern of its kind.

The following figures have been kindly supplied by the Director regarding the activities in connection with slaughtering and meat inspection during the two years under review:

1939/40: 150,848 cattle, 600,587 sheep, etc., 22,313 calves, and 126,874 pigs, or a total of 900,622 animals were slaughtered at the abattoir; 3,678,603 lbs. imported meat was inspected, and 1,877,265 lbs. of meat was condemned.

1940/41: 171,001 cattle, 725,862 sheep, etc., 24,122 calves, and 152,200 pigs, or a total of 1,073,185 animals were slaughtered at the abattoir; 4,068,419 lbs. imported meat was inspected, and 1,895,513 lbs. meat was condemned.

NIGHTSOIL, SLOP WATER, AND REFUSE COLLECTION AND DISPOSAL.

The major portion of the city is connected to sewer and sewage disposal works are situated at five centres. The total average daily flow of sewage amounts to approximately 13 million gallons. Further details of the operation of these works during the period under review are contained in the annual reports of the City Engineer.

Pail closets are still in use in a few outlying districts and night soil is normally removed three times weekly, and in a few special cases, daily. The average number of pails removed nightly is 6,275.

Two hundred and forty-six (246) conservancy tanks are maintained where sewer is not available; the contents of these tanks are removed periodically by the Council's "vacuum" tanks. A few septic tank installations exist, at the pleasure of the Council, on premises where sewer is not available and where the size of the property makes it possible to comply with a by-law requirement that such installation must be at least 100 feet from dwellings and from the boundary of the property. Pit privies are not permitted within the municipal area.

Refuse which is temporarily stored—on domestic and business premises—in approved, covered refuse receptacles is collected three times per week by refuse carts and disposed of by incineration (approximately 58 tons per day) and controlled tipping (approximately 874 tons per day).

Slop water is disposed of in the unsewered districts by means of French drains and, in a few cases, by surface irrigation.

The municipal services referred to in this section of the report are carried out by the Cleansing Branch of the City Engineer's Department.

SEWAGE DISPOSAL.

There are five sewage disposal plants in operation. During the two years under review the daily average flow of sewage (in gallons) was as follows:

	1939/40.	1940/41.
Klipspruit	7,042,192	7,222,400
Antea	381,552	432,000
Bruma	1,750,000	1,902,000
Cydna	1,020,000	—*
Delta	1,330,000	1,861,200

* (Note: Details in respect of Cydna Sewage Disposal Works are not available for 1940/41 owing to the loss, by enemy action, of the control apparatus for regulating and recording the flow.)

Detailed reports regarding the operation of the Sewage Disposal Works are contained in the annual reports of the City Engineer for the two years under review. Annexures I and J to this report gives details of the average analyses of sewage and effluents at the five plants.

The Chemical Division of the Public Health Department, under the direction of the Council's Bio-Chemist (Mr. H. Wilson), carries out all routine analyses required at the sewage disposal works and carries out research in connection with the operation of the various plants. The bio-chemist has summarised the activities in connection with research on sewage purification during 1939/40 as follows:

" A gradual diminution of laboratory work on routine and research has been necessary due to war conditions.

" Experiments with the eight temperature controlled 12-inch diameter model filters was continued in the hope of gradually accustoming the flora and fauna of the beds to work at about 120° F., or alternatively of establishing fresh forms of life suited to the higher temperature.

" During a year of trial no evidence was found that nitrification could proceed effectively at this temperature.

" It is hoped to continue this work at even higher temperatures later.

" Experiments on the two 6-inch model filters were continued, one of the filters being sealed at the top and measured volumes of carbon dioxide introduced. These experiments will be reported on later, but the outstanding conclusion to be derived from this experiment is that the biological filter can work with very small concentrations of oxygen, and that high concentrations of carbon dioxide are necessary to adversely affect the filter.

" Two 100 feet diameter filters at Klipspruit, equipped and designed for experimental work were completed at the onset of winter, but since the maturing of open filters is retarded during cold weather, no results worthy of report are available.

" Part III of " Investigation on Percolating Filters," by the City Engineer (Dr. E. J. Hamlin), and the Bio-chemist (Mr. H. Wilson) was presented by Dr. Hamlin to the Summer Conference of The Institute of Sewage Purification, held at Worcester in July, 1939.

" A paper on a laboratory study of The Production of Carbon Dioxide in the Biological Filter Bed, by H. Wilson and J. A. McLachlan, was published in the Sewage Works Journal of America in May, 1940."

During 1940/41 the research on biological filters—which had been in progress over several years—was in some directions held in abeyance because of depletion of the laboratory staff as the result of enlistments for military service.

A short interim account of the results obtained in the comparative study of sizes and types of filtering media with and without special ventilation zones in a 6 feet and a 12 feet deep filter was read by Dr. A. H. Meyling, Chemist-in-charge, Klipspruit Laboratory, before the South African Branch of the Institute of Sewage Purification, on 10th April, 1941. A copy of this paper, and copies of the two papers referred to above, are published as annexures to the aforementioned annual reports of the City Engineer.

CHEMICAL DIVISION.

The staff of the Chemical Division maintain close contact with the officials responsible for the operation of the sewage disposal works. In addition, the Chemical Division renders analytical and consulting service to all departments of the Council, two full-time chemists being seconded to the Gas Works and Power Station.

Some of the laboratory appliances and chemical reagents used in the biochemical laboratories were either exactly as required or could, with little trouble, be adapted for the purpose of detection and identification of the war gases.

The staff of the Division was authorised to work on the preparation of small testing samples of important war gases, and of the materials and devices for detecting and identifying these gases.

Most of the staff devoted evenings and week-ends to this work and several are now occupying positions of responsibility, largely because of the knowledge thus acquired.

By supplying small samples of certain war gases, some reagents and appliances not obtainable elsewhere, the Chemical Division has helped to expedite training of military personnel in gas detection and identification.

Those members of the staff not serving with the forces have placed themselves at the disposal of the C.P.S. as a nucleus for the gas identification branch of this service.

As members of the staff proceeded to training and were later called up for service, work has been cut down as far as possible in order to avoid the necessity of keeping up the numbers by engaging temporary staff This has meant that some research work has been interrupted when a point was reached where such interruption would not entail loss of the work already done.

SWIMMING BATHS.

During the first half of the 1939/40 season bacteriological examinations of the water from the twelve municipal swimming baths were made weekly, but during the latter half of that season and the 1940/41 season examinations were made fortnightly. This work is carried out by the Chemical Division.

Chlorine gas was used as economically as possible because of threatened shortage. A standard of between 0·05 and 0·1 parts per million free chlorine was maintained at the outlets from the baths with consequent greater concentration elsewhere in order to keep the water in reasonably good bacteriological quality.

PUBLIC CONVENIENCES.

Since September, 1937, the Public Health Department has controlled and administered the various public conveniences in the city and its suburbs, excluding those in public parks and recreation grounds—which are controlled by the Parks Department.

There are nine public conveniences and rest rooms for Europeans and twelve public conveniences for non-Europeans under the control of the Public Health Department; these are situated at Rossmore, Bezuidenhout Valley, Yeoville, Melville, Doornfontein, Rosettenville, Regents Park, Central Area (2), Von Brandis Square, Union Grounds, Noord Street, Fordsburg, Western Native Township (2), Kloof Road, and West Street.

Some of the aforementioned were recently constructed, and a programme has been prepared of additional conveniences to be built in various suburbs. Two of these are now in the course of erection (at Illovo and Ellis Park) and will be opened during the next few months.

HOSPITAL FOR COUNCIL'S NATIVE EMPLOYEES.

The Council's hospital for its Native employees, which is administered by the Public Health Department, provides accommodation for the hospitalisation of medical and surgical cases which do not require treatment in a fully equipped hospital. Serious cases are transferred to the non-European hospital in the city.

The hospital buildings are very old, having been erected approximately forty years ago, and proposals are now under consideration to provide more satisfactory accommodation in conjunction with the hospital to be established for non-European tuberculosis and infectious disease cases.

CREMATION OF DECEASED PERSONS.

On 22nd September, 1937, the Council's by-laws governing the cremation of deceased persons were amended, and provided that before cremation takes place such must be authorised by the Medical Officer of Health or one of his assistants.

The number of cremations authorised were 478 and 528 during the two years ended 30th June, 1940 and 1941 respectively.

Each application is carefully scrutinised by the responsible official before a decision is made as to whether or not authority for the cremation should be issued.

HEALTH EDUCATION.

The Department's activities on propaganda lines were continued during the year. The principal propaganda measures were:

(a) Distribution of booklets on health matters. These publications include "Facts about Ourselves," "Care of Mother and Child," "Prevention and Destruction of Rats and Mice," "The House or Typhoid Fly." It may be mentioned that by arrangement with the Registrar of Births and Deaths, a copy of the booklet "Care of Mother and Child" is handed to every person registering a birth.

(b) Advertisements in the local papers and periodicals, at some cost, illustrating various public health matters. More especially was public attention called to clean milk production by means of illustrations, and the Press were good enough to elaborate by appropriate articles. Indeed, the Press have assisted greatly in this connection.

(c) A 16 mm. film projector, complete with the necessary equipment, has been purchased for the purpose of exhibiting health education films to suitable audiences. Owing to the depletion of staff during the war, the full programme in this connection cannot be proceeded with, and the apparatus has only been used on a few occasions.

INSPECTION OF PLANS.

During 1940/41 4,485 plans were approved, as against 7,927 the previous year; the estimated value of the work for the year ended 30th June, 1941, was £2,309,432 as against £3,892,858 for 1940, a decrease of £1,583,426.

All plans submitted to the Council through the City Engineer are passed on to your Medical Officer of Health for examination *re* all matters relating to drainage, lighting, ventilation, open space, licensing, etc. The provisions of the Factories Act, Native Labour Regulations (1911), Natives (Urban Areas) Act, Slums Act, Town Planning Ordinance, all receive necessary consideration before plans can be finally approved.

The majority of the drawings are returned for amendments and are, therefore, handled twice or three times.

In view of the Department's responsibilities under the Slums Act, the system is particularly valuable, especially in cases of partial demolition and rebuilding, as the closest co-operation exists between the officials concerned, enabling great improvements to be effected.

The co-ordination and organisation of work and the cordial relations existing between the City Engineer's staff, the Inspector of Factories, the Municipal Non-European and Native Affairs Department, and the Plans Inspection staff is gratifying and is acknowledged.

Many architects and their assistants, builders, plumbers and owners avail themselves of the opportunities given to discuss improvements and amendments, and the qualified/and valuable advice given is much appreciated.

The difficult problem of preventing some considerable amount of skilful circumvention of the by-laws has engaged the attention of your Medical Officer of Health and plans staff, and the measures adopted have had a marked effect in planning of certain types of domestic buildings in specified areas.

In addition to the ground covered by the Special Inspectors during the two years under review, the District Inspectorate staff have accomplished 860 inspections in connection with repairs to buildings, and 230 inspections in connection with unauthorised buildings.

ANNUAL RECORD OF DUTIES PERFORMED BY DISTRICT INSPECTORS ONLY.

From 1st July, 1939, to 30th June, 1941.

This page, indicating as it does the mass activities of the Inspectorate Staff of the Department, is generally passed by—as being an incongruous mass of figures—by the public, the Press and those in authority. But in a way it is highly illuminating to those who wish to know the extent of the activities of the Staff of the Health Department of a large city. Including Licensing Inspections enumerated in the following table on "Licensed Places," it means that the Inspectorate Staff of the Department made 172,776 visits to various premises during the two years. That figure substantiates a claim to meticulous and comprehensive inspection of premises by the Inspectorate Staff of the Department, and, it is thought, leaves little leaven to the bread of those who exclaim that they haven't seen a Health Inspector or Sanitary Inspector for years.

Inspections.

Buildings—	1940/41	1939/40
Repairs to	471	389
Unauthorised	122	108
Closets and Urinals—		
Inspected	6,163	5,827
Additional Provided	76	91
French Drains	495	388
Dwellings—Routine Visits	8,380	7,924
Dwellings—Survey	15,636	2,105
Factories	1,437	1,649
Business Buildings	1,975	1,538
Native Housing	1,065	829
Interviews—Owners, Agents, etc.	3,859	4,021
Reports	1,517	1,678
Nuisances—		
Animals	512	534
Drainage	2,039	1,729
Fly	435	384
Manure	890	700
Mosquito	220	201
Poultry	510	578
Rats	438	621
Refuse	2,592	2,247
Slopwater	640	874
Smoke	246	251
Stables	1,069	823
Stormwater	349	408
Unspecified	2,199	1,882
Service Complaints	272	327
Wells	125	149
Cyanide Fumigations—		
Supervised	4,515	3,849
Infectious Diseases—		
Cases Investigated	1,620	1,587

Infectious Diseases—	1940/41	1939/40
Contacts	1,085	608
Vaccination	35	74
Licensed Premises—		
Aerated Water and Ice Factories	191	187
Asiatic Eating-houses	300	274
Bakeries	1,540	1,489
Hairdressers	1,390	1,346
Cinemas	270	197
Boarding-houses	464	829
Butcheries	5,348	5,029
Cowsheds	197	28
Dairies	152	33
Garages	422	477
General Dealers	12,596	12,487
Hawkers and Pedlars	1,284	1,399
Hotel Dining-rooms	300	324
Ice Creameries	207	184
Kaffir Eating-houses	3,041	3,291
Laundries	721	644
Lodging-houses	73	69
Milkshops	695	17
Noxious Trades	2,840	3,127
Nursing Homes	80	82
Private Cows	32	54
Restaurants	1,872	1,804
Tea Rooms	2,517	2,622
Notices Served—		
Statutory	1,634	2,948
Others	1,966	2,577
Prosecutions	49	172
Attendance at Court (Hours)	59	329
Licensing Court (Hours)	273	305
Special Duty	304	228

PROSECUTIONS.

During the year ended 30th June, 1940, 392 persons were prosecuted, involving 433 charges for various breaches of the Public Health Act, the Local Government Ordinance, the Food and Drugs Act, the Slums Act, and the Public Health By-laws. From the 433 charges 402 convictions resulted, and fines aggregating £1,953 10s. were imposed.

During the year ended 30th June, 1941, 174 persons were prosecuted, involving 187 charges, for various breaches of the above-mentioned enactments. From these 187 charges 187 convictions resulted, and fines aggregating £797 15s.

were imposed. The greatly reduced number of prosecutions during the year ended 30th June, 1941, is a result of reduced staff owing to absence on military service.

Particulars for the two years under review are appended:

Offence.	Year ended 30th June, 1940.				Year ended 30th June, 1941.			
	Races.			Total.	Races.			Total.
	Whites.	Natives and Coloureds.	Asiatics.		Whites.	Natives and Coloureds.	Asiatics.	
Dirty and verminous premises	9	1	4	14	14	3	4	21
Fumigation by-laws	1	—	—	1	2	—	—	2
Fly breeding	16	—	1	17	—	—	—	—
Dirty adulterated Milk	68	17	—	85	32	15	1	48
Food and Drugs Act	56	—	11	67	31	4	5	40
Unsound and adulterated foodstuffs	10	1	6	17	11	—	3	14
Food exposed to contamination and dirty premises	48	3	7	58	14	1	4	19
Unsound and unstamped meat	12	—	7	19	16	3	1	20
Obstruction	1	—	1	2	1	—	1	2
Unlicensed premises and trades	9	—	—	9	1	—	3	4
Midwifery Regulations	1	—	—	1	—	—	—	—
Dairy by-laws	3	—	—	3	6	1	—	7
Slums Act and Regulations	11	—	1	12	—	—	—	—
Rodent-proofing Regulations	1	—	—	1	—	—	—	—
Nuisances (dirty yards, etc.)	81	12	28	121	1	2	1	4
Not classified	2	—	4	6	6	—	—	6
	329	34	70	433	135	29	23	187
Results.								
Convicted and fined	301	29	66	396	133	27	22	182
Convicted and cautioned	6	—	—	6	1	—	—	1
Court orders granted	—	—	—	—	1	2	1	4
Dismissed	8	1	1	10	—	—	—	—
Withdrawn	14	4	3	21	—	—	—	—
	329	34	70	433	135	29	23	187
	£1,635	£54 10s.	£264	£1,953 10s.	£637 10s.	£69 15s.	£90 10s.	£797 15s.

This work is supervised by the Medical Officer of Health, his Deputy, the Assistant Medical Officers of Health, and the Chief Health Inspector, under whose directions proofs of evidence, summonses, subpoenas, and charge-sheets are prepared and handed to the Council's solicitors.

HOUSING AND ELIMINATION OF SLUM PREMISES.

(a) *Elimination of Slum Properties.*

Although powers to deal with insanitary properties were conferred by the Public Health Act of 1919, and by the Local Government Ordinances in force in each of the Provinces, the need for legislation to deal more effectively with slum conditions soon became evident in the older and larger cities and towns of the Union. The Slums Act, which came into force on 25th June, 1934, was designed to meet the need.

After approximately seven years of operation of the Slums Act, it seems fitting to take stock of the results obtained in Johannesburg during this period and to bring under review what still remains to be done.

Johannesburg was included in the specified cities and towns in which the Act became operative when it was promulgated, and without undue delay the Council took advantage of the new powers accorded to local authorities, the first Slums Court being held on 3rd December, 1934.

Before the enactment of the Slums Act, insanitary properties were dealt with mainly under Section 74 of the Local Government Ordinance (Transvaal) of 1926. At 1st July, 1934, 163 properties were being dealt with in terms of this section. The procedure laid down in the Ordinance was gradually applied to these premises, and up to the end of 1936 action under the Ordinance was instituted in respect of further properties, but from January, 1937, the Slums Act has been used exclusively with the exception of those properties which were affected by earlier action under the Ordinance and had not been rendered habitable.

The following table sets out the number of properties dealt with during the period 1st July, 1934 to 30th June, 1941:

Year.	Slum Declarations.	Rescission of Slum Declarations.	Properties Expropriated.	Work completed before Slums Declaration (Properties).	Properties made habitable as result of action under L.G.O.	Total Slums eliminated: Slums Act and Local Government Ordinance.
1934/35 ...	68	—	—	—	156	156
1935/36 ...	85	34	36	29	40	139
1936/37 ...	91	33	69	14	48	164
1937/38 ...	183	24	11	28	49	112
1938/39 ...	160	92	20	9	8	129
1939/40 ...	161	128	—	1	2	131
1940/41 ...	192	89	3	9	1	102
	940	400	139	90	304	933

In regard to six properties included as declared slums, appeals were still outstanding as at 30th June, 1941.

During the first year (1934/5) 68 premises were declared slums. This number increased slightly in the two succeeding years and was practically double in 1937/38, after which the number remained fairly constant at the higher figure, but, as disclosed in Section (b) hereof, the number of properties dealt with has not been as great as circumstances require. It will be noted that after action had been instituted under the Act in the case of 90 properties, the premises were demolished or put in order before a slum declaration was made. This happy result was less frequent in the later years, possibly because the Slums Act has lost some of its terrors for the more hardened slum landlords.

Of the 940 properties declared slums, 400 declarations have been rescinded and 139 properties have been expropriated. Slum declarations are still in force in respect of the remaining properties for the following reasons:

(1) Expropriation intended	21
(2) Time not expired for compliance with notices served under Section 5 (1) (a) and (b)	72
(3) Time expired for notices served under Section 5 (1) (a) and (b)	60
(4) Time extended for notices served under Section 5 (1) (a) and (b) (including 235 properties in Vrededorp) ...	242
(5) Appeals under consideration	6

In addition to the above, 41 properties have been under consideration by the Slums Court; in the cases of 33 properties the Court has not yet come to a decision and action has been deferred in respect of the remainder (8).

The following table summarises the progress during the seven-year period:

Year.	Properties Declared Slums.			Number of Properties where nuisances were abated to prevent Slum Declarations.	Number of Properties where nuisances were abated to remove closing order under L.G.O.
	Number Declared Slums.	Number of Slums Declarations Rescinded.	Number of Properties Expropriated.		
1934/35 ...	68	—	—	—	156
1935/36 ...	85	34	36	29	40
1936/37 ...	91	33	69	14	48
1937/38 ...	183	24	11	28	49
1938/39 ...	160	92	20	9	8
1939/40 ...	161	128	—	1	2
1940/41 ...	192	89	3	9	1
Totals ...	940	400	139	90	304

In addition to the above two properties were expropriated by the Council prior to being declared slums. At 30th June, 1941, appeals were still under consideration in respect of six properties included as properties declared slums during 1940/41.

The properties referred to in the foregoing table were situated in 55 townships, including Prospect Township and Springfield, which have been cleared entirely of slums.

Action under the Local Government Ordinance accounted for 304 insanitary properties over the whole period, but for only 11 properties during the last three years.

The number of slums eliminated under the Act and the Ordinance during the seven years totalled 933. This total does not seem very impressive but the actual figures do not reflect the amount of work involved. It should be noted that throughout this report the figures quoted represent properties and *not* stands. Some of the properties comprise several stands.

Apart from the activities outlined above, many insanitary properties were reconstructed or entirely rebuilt as a result of the Department's insistence on improvements when dealing with applications for trading licences. Plans submitted for alterations and additions to existing properties were scrutinised by the housing branch, and in many instances owners were persuaded to remove all structural defects likely to give rise to nuisances. Informal notices under the Slums Regulations met with a good response. But for the war much greater use would have been made of these regulations.

Figures are not available for the work summarised in the last paragraph, nor for the elimination of insanitary conditions as the result of natural development. The period under review was a fairly prosperous one. Many owners were imbued with a commendable desire to improve their premises, others were stimulated by the fear that their properties might be the object of early action under the Slums Act. Industrial and other development accounted for much improvement. Notable examples of this are the clearing of the sites for the New Magistrate's Courts and the Anglo-American Building in Ferreirastown.

Altogether the elimination of insanitary dwellings in Johannesburg over the seven years period has been considerable, but much still remains to be done.

The activities of the Department in connection with the elimination of slum properties have been closely associated with the Council's policy of providing housing on a sub-economic basis for Europeans and non-Europeans, full details of which are given in the following sections of this report.

(b) *Survey of Insanitary Dwellings.*

In spite of the shortage of staff resulting from war conditions, it was considered necessary to make a complete survey of insanitary properties in the city and at the same time to assess the number of houses required to rehouse families living therein. Allowance has been made for the fact that some houses can be reconstructed or improved and the rehousing requirements have been estimated for families displaced by elimination of overcrowding or demolition of premises.

Annexure K gives details of the survey and indicates the position as at 30th June, 1941.

The figures reveal that there are at least 5,524 insanitary properties in Johannesburg, and that the structural condition of 2,672 is so bad that complete demolition thereof is the only remedy. In the case of 1,105, repairs, improvement of ventilation, reduction in overcrowding, etc., is all that is necessary, while the remaining 1,747 properties fall into an intermediate category in that portions of the buildings can be made fit for habitation.

The following table gives an indication of the *number of houses required* to rehouse those living in insanitary premises:

	Houses with one bedroom.	Houses with two bedrooms.	Houses with three bedrooms.	Houses with four bedrooms.	Total.
Europeans	428	803	566	112	1,909
Asiatics	89	197	169	72	527
Natives	4,506	2,622	1,242	171	8,541
Coloured "D"* ...	176	298	231	59	764
Coloured (Other) ...	78	120	100	24	322
	5,277	4,040	2,308	438	12,063

* Indicates that class of coloured person whose economic conditions and standard of living approximates closely to Natives and as distinct from the class of coloured person whose standard is higher than Natives.

It will be seen from the foregoing report and the facts disclosed by the survey that although much has been done in the way of slums elimination and rehousing, the rate of progress in both directions will have to be accelerated if Johannesburg is to be cleared of its slums in a reasonable period.

It cannot be too strongly emphasised that both from the practical and humanitarian points of view extensive slum clearance can only achieve its legitimate object if accompanied by equally extensive housing projects. It is hoped that private enterprise will continue to make some contribution to the undoubted shortage of houses but it should be borne in mind that the landlords are likely to find that the building of houses for lower wage earners will become less profitable while the cost of building remains high, and particularly when the unnatural profit derived from letting single rooms to families falls away, as it must do when it is possible to provide sufficient accommodation. This method of letting (one family per room) results in an unduly high population per acre and inevitably leads to slum conditions, and provision has been made in the regulations framed under Section 32 of the Slums Act to enable this practice to be reduced to a minimum.

These regulations came into force towards the end of 1939; chiefly due to the outbreak of hostilities and the consequent lack of staff, building materials and labour, comparatively little use has been made of them, but one feels sure they could be used with good effect in many areas if accommodation for displaced tenants were made available on a large scale. Until then, to enforce their provisions would only have the effect of further aggravating existing unsatisfactory conditions.

EUROPEAN HOUSING.

The Department has under its jurisdiction the control and administration of the Council's European housing schemes. At 30th June, 1941, three separate schemes for sub-econmic housing were completed. Details are given hereunder:—

(*a*) *Jan Hofmeyr Township.*

This scheme, consisting of 194 houses, is the first European sub-economic scheme undertaken by the City Council, and was completed for occupation during February, 1937.

Situated on Brixton Ridge, to the north-west of the City proper, it occupies what is considered one of the healthiest sites in Johannesburg, and is ideally situated in so far as distance from the City and means of transport are concerned.

Fifty-three per cent. of the dwellings have three bedrooms, and forty-seven per cent., two bedrooms. In addition to sleeping apartments, each house has a living room, with gas heater, a kitchen fitted with a gas cooker, sink and ventilated food cupboard; a bathroom with a bath and wash-hand basin;

a water closet and a brick storage shed in the yard. Towards the end of 1940, work commenced on the installation of a hot water system in each dwelling, the work being completed in April, 1941. The communal hall is in the course of erection and arrangements have been made for the official opening by the Hon. J. H. Hofmeyr on 12th August, 1941.

The houses are of brick construction with corrugated iron roofs. Each cottage stands on its own plot of ground of an average size of 50 feet wide and 75 feet deep, all plots being completely fenced. All stands are connected to the City Council's electricity, sewerage and gas services.

The rentals are 10s. per week for the two-bedroom houses, and 12s. 6d. per week for those with three bedrooms.

The estate is provided with children's playgrounds fully equipped, a sports ground, and various other open spaces. All streets are now made, tarred, kerbed and channelled for stormwater drainage. All pavements have been made with tar macadam and trees planted. Gardening is fully encouraged by the provision of manure and sludge for fertilising and free water supply up to 3,750 gallons per house.

(*b*) *Maurice Freeman Housing Scheme, Bertrams.*

This is one of two later schemes undertaken by the Council and full occupation was completed during April, 1939.

In essence this may be regarded as a " clearance scheme," as the site was previously occupied by a conglomeration of insanitary rooms and dwellings rented mainly by coloured people. The stands in the area to be cleared were dealt with in terms of the Slums Act, 1934; these being the first properties dealt with by the Public Health Committee sitting as a Slums Court in terms of the Act.

The site is approximately 20 acres in extent and was purchased by the Council in terms of the Slums Act on a private agreement basis.

The scheme at present consists of 70 houses, 30 of which have two bedrooms and 40 having three bedrooms; in addition there are four blocks of flats, comprising 36 with two bedrooms and 12 with three bedrooms; the total accommodation being for 118 families.

The following improvements on pre-existing schemes have been incorporated in the dwellings: Slow combustion stove (in addition to gas cooker) in the kitchen, which provides hot water to the bathroom and kitchen sink; larger rooms; the elimination of vermin harbourage by dispensing with wood skirtings and providing metal picture rails; improved permanent ventilation; terrazo top to sinks and a clothes supboard in the main bedroom.

In the flats a central hot water supply is provided to baths, basins, sinks and wash troughs, which latter are situated on the back verandahs of each unit. Clothes drying is carried out on washlines in a central courtyard around which the two-storeyed buildings are arranged in the form of a quadrangle.

Each house is on its own fenced plot, approximately 45 feet by 75 feet.

A communal hall, the contract price of which was £4,528 was opened by His Worship the Mayor, Councillor T. P. Gray, J.P., M.P.C., on 13th December, 1940.

Administration offices and a nursery school are incorporated in the building.

The rentals for the various types of accommodation in this scheme are:—

	per week.
For two-bedroom detached house	12s. 6d.
For three-bedroom detached house	15s. 0d.
For two-bedroom flat	15s. 0d.
For three-bedroom flat	17s. 6d.

The increase in rentals against those for Jan Hofmeyr Township is due to the enhanced building costs and the improvements in the individual units.

An area of ground contiguous to the east side of the estate has been dealt with under the Slums Act and purchased by the Council. A portion of this area has been set aside for the construction of a residential club for working girls.

Ground to the south of the estate is now being dealt with under the Slums Act, it being the intention to use this to expand the estate at some future date.

The scheme has proved an unqualified success as a means of rehabilitation of wage earners on the sub-economic level.

(c) *Pioneer Housing Scheme, Glenesk.*

The scheme is situated in the Southern Suburbs on a portion of the suburb Glenesk. The site is approximately 18 acres in area and was formerly open ground which was purchased outright by the Council.

The accommodation consists of 96 houses, of which 43 have two bedrooms, 45 have three bedrooms and eight have four bedrooms.

In addition there are three blocks of flats, containing a total of 24 self-contained units, of which there are 18 with two bedrooms and 12 with three bedrooms, accommodation being provided for a total of 120 families.

The constructional details and improvements of this housing scheme are similar to those of the Maurice Freeman scheme, the two having been built almost simultaneously.

The scheme has now been occupied for just over 18 months, and has thus far, definitely served the purpose for which it was intended.

The communal life, chiefly due to the efforts of the Housing Manageress and the Tenants' Association, has been of a very high order, the tenants having made good use of the communal hall throughout the year.

The layout includes a children's playground, school site and open spaces. The development of open spaces and gardens was completed in March, 1941

The scheme includes the Lionel Leveson Girls' Residential Club. The building was completed and the first residents took up occupation at the end of 1939. The club, although not yet fully occupied, has been very successful and it is expected that within a short time the club will have its full complement.

The rentals for the different types of houses are the same as for the Maurice Freeman scheme, except that there are, in this scheme, eight houses with four bedrooms, for extra large families, let at a weekly rental of 17s. 6d.

In each of the three schemes the following conditions are applicable:

Water is supplied free to each house up to 3,750 gallons per month; consumption beyond this allowance must be paid for by the consumer at the standard rate of 2s. 11d. per 1,000 gallons. The tenants of flats pay for electricity and gas in a similar manner to tenants in houses, but do not pay any charge for water consumed.

Gas is provided for cooking and living room heating in each unit at a reduced charge of 3s. 4d .per 1,000 cubic feet and is paid for through a slot meter.

Electricity is supplied for lighting and domestic power, such as ironing. etc., at the standard rate of 6 units at 4d. per unit for each room (bedrooms and living room) and ½d. per unit for the balance. Payment is made through the slot system.

Sewerage is provided throughout and all streets are made, tarred, kerbed and guttered.

The Council intends to provide for future expansion of its sub-economic housing schemes by establishing a scheme on a far larger scale than has been undertaken heretofore.

This scheme is known as Welfare Park arranged on a site of approximately 310 acres forming a portion of the Klipriviersberg Estate Small Holdings. The site is situated to the south-east of the City, in a moderately high position with a slight general fall to the north.

The main block of ground was purcased in May, 1937, and later some small areas were added.

The ground was purchased at a cost of approximately £83,000 and it is intended to provide accommodation for approximately 2,000 families. Consideration has also been given to the inclusion of appropriate accommodation for aged persons.

Selection of Tenants.

This work is carried out by the housing manageress who, when vacant sub-economic dwellings are available, visits applicants at their homes and decides on their eligibility for consideration. It is usually considered that the rent of the sub-economic house should be approximately one-fifth of the total family income, for a family consisting of a man, wife, and two minor children, but it is not possible to adhere strictly to this proportion, particularly where the applicant is head of a large family.

Where children are wage earners, only one-half of their wages is usually included in the total family income. Cases have been investigated in which the family income is wholly derived from children's earnings, or Children's Aid Society Grant, Invalidity Pension, and other charitable sources.

It has not been found possible to lay down hard and fast rules regarding a suitable salary scale for prospective tenants, and the manageress considers each case individually, with the foregoing data merely as a guide.

Bad Debts.

Bad debts are occasionally encountered, but in Johannesburg the total amount represented by bad debts has been less than one-half of one-twelfth of accruals, thus being more than 50 per cent. less than the basic amount specified by the Government for the purpose of calculating the possible loss on a projected scheme.

Rehabilitation.

Visits to homes by the manageress have proved to be of inestimable value in the social education of tenants, and the system whereby all payments of rent are made to the manageress at the township office, has also proved to be a valuable means of contact. Tenants are encouraged to visit the manageress at the office for advice on financial and domestic difficulties; that this latter aspect of the work is of value, and is appreciated, is shown by the comments of tenants speaking at certain functions.

In South Africa, as distinct from many overseas countries, the application of the term "rehabilitation" is not altogether appropriate to our problem as it implies the necessity of eradicating a slum consciousness in the minds of the individuals being assisted. Fortunately, one can state with confidence that the existence of such an outlook is relatively rare among the low income group in Johannesburg. This assertion is supported by the numerous instances of successful attempts made by some families to maintain an air of respectability and cleanliness in their homes notwithstanding economic difficulties.

Each housing scheme has a communal hall and tenants are encouraged as far as possible, to take part in the social life of the township. Experience in Johannesburg has shown that it is absolutely necessary that the hall be completed and ready for use before the first tenants take occupation, the reason for this being that if no hall is provided the tenants find other avenues for social intercourse, and it is more difficult at a later date to get them to take part in the social life of the housing scheme community.

At the commencement of the schemes, functions were organised by the manageress, but as the people responded and became interested, tenants' associations and women's clubs were formed and these, under the guidance of the staff, further the social life of the community.

A very simple constitution has been drawn up for the guidance of the committee of the tenants' associations and with the right type of tenant on the committee, coupled with guidance from the housing staff, the tenants' association have been of great value in communal life.

Women's clubs have proved to be our most successful venture in this sphere.

Concerts, dances and socials are arranged by both the tenants' association and the women's clubs, a reduced charge being made for the communal halls where the proceeds of the function will be used for the benefit of the housing scheme tenants or their families.

Vegetable clubs in all the schemes are conducted on the following lines: A sum of money, which is advanced by the tenants' association is used to purchase vegetables in bulk on the local market on Friday of each week. These vegetables are transported to the schemes in a departmental vehicle and under the supervision of the manageress, women members of the community divide the vegetables into lots of value of 2s. for large families, and 1s. 6d. for smaller families. On Saturday mornings the tenants call and purchase the vegetables. One of the large firms at the local market supply whatever vegetables are in season, at the rate of 8s. per bag, and by this means it is usual for the tenant to receive approximately twice the quantity usually obtained from the street hawker for the same money.

Local organisations such as the Boy Scouts Association, the Association of Boys' Clubs and the Association of Girls' Clubs are given the use of the communal halls free of charge and these organisations are encouraged to, and do approach the manageress for assistance and advice regarding the children who attend the meetings. These bodies form a very important social link, and are, on the recommendation of the manageress, helped financially by the tenants' association.

In several cases domestic and family problems result in local charitable organisations maintaining contact with families in the housing schemes. Valuable results have been achieved by harmonious contact between such organisations and the Council's housing staff.

The Gas Department of the Council has arranged from time to time, very instructive cooking demonstrations and has taken care that the demonstrations include the preparation of only such foodstuffs and recipes as are within the means of the people.

The manageress keeps in touch with employers of labour, and efforts are made to place in employment tenants who are out of work.

A preference has been expressed by employers in favour of tenants because of their increased stability and reliability.

NON-EUROPEAN HOUSING.

(a) *Natives.*

Housing accommodation is provided by the Council for natives, as per details hereunder (as at 30th June, 1941):—

Eastern Native Township: 616 houses.
Western Native Township: 2,182 houses, 36 rooms, 96 huts.
Orlando Native Township: 5,891 houses.
Pimville Native Township: 11 houses, 96 rooms, 99 huts.
Mai-Mai Native Hostel: 270 beds for males.
Wemmer Native Hostel: 2,700 beds for males.
Wolhuter Native Hostel: 3,500 beds for males.
Wolhuter Native Hostel: 126 beds for females.

The total capital outlay in respect of the above is £1,624,501.

In addition to the above, privately owned houses are built on 2,076 stands in Pimville. The housing conditions in this location are far from satisfactory and the improvement of such conditions must of necessity be given early attention as soon as conditions return to normal, if it is not possible to do so earlier.

The native population in the various locations and hostels specified above is approximately 72,000. In providing such extensive housing accommodation for natives, the Council has carried out its obligation to a great extent in providing houses for this section of the community, and in the process of slum elimination, particularly as a very considerable proportion of the slums of the City exist primarily on account of native occupation in the poorer areas. It is also encouraging to note that natives and their families respond in a marked degree to the efforts made in providing proper housing conditions in the Council's Native Townships, and particularly in the rapidly growing Orlando Township.

The need for more housing accommodation for natives in the City is generally apparent and is indicated to some extent in the section of this report dealing with the recent survey of insanitary properties. As with many other Council activities, war-time conditions have prevented large scale development in this direction, but it is desired to emphasise that it will be essential for the Council to give prior consideration to the question of housing—particularly for non-Europeans—as soon as this becomes possible.

The Manager of the Council's Non-European and Native Affairs Department reports that "at one time not more than 12 per cent. of natives evacuated from slum areas actually took up residence in locations and hostels. This figure is now 100 per cent., and in the present abnormal conditions obtaining, the demand is so keen that many subterfuges are employed by them to secure municipal accommodation."

(b) *Eurafricans.*

Coronationville Township for Coloured Persons

During 1937/38, the Council purchased approximately 200 acres of ground adjacent to the southern boundary of the Western Native Township, for the purpose of establishing a housing scheme for Eurafricans, at a cost of about £41,000 for the land. The full scheme approved by the Central Housing Board makes provision for the erection of 900 houses of varying capacity and design, together with communal centre, parks, schools, church and hospital sites. The total estimated cost approved by the Administrator is £680,000.

Houses for the first 250 families are complete and are already in occupation. These houses are of the one-bedroom to three-bedroom types, the rentals of which vary from 6s. to 12s. 6d a week. All the houses have wooden floors and steel ceilings and are equipped with electric light, hot and cold water and indoor sewerage and have bathing and washing facilities. The houses are proving most popular. Their popularity is due in part to greatly improved accommodation over what is available elsewhere, and partly no doubt to the low rents which compare most favourably with those obtaining even in slum areas. The rents of comparable properties are in some cases as much as 100 per cent. higher than those charged by the Council. The scheme promises to be an unqualified success, and it is intended when funds can be made available from sub-economic sources to proceed. This is, unfortunately, not possible at present owing to the war.

Noordgesig

Another scheme for the poorest type of Eurafrican is being developed at Noordgesig, near Orlando. During the year ended 30th June, 1941, a contract was entered into for the erection of the first 350 houses; 250 were completed and handed over before the 30th June, and the work on the remainder is nearing completion.

(c) *Asiatics.*

In addition to the activities detailed in the foregoing paragraphs, the Council has now under consideration the provision of housing accommodation for Asiatics.

Annexure A.

DEATHS DURING THE YEAR ENDED 30th JUNE, 1940.

DISEASE GROUP.	Europeans		Natives (Mining)		Natives (Non-mining)		Coloureds		Asiatics		Persons		
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Total
1. Infectious and Parasitic Diseases	121	61	110	—	378	254	60	43	13	9	682	367	1,049
2. Malignant and Other Tumours	156	144	4	—	15	14	4	5	9	1	188	164	352
3. Rheumatism, Diseases of Nutrition and of Endocrine Glands and Other General Diseases	32	43	2	—	27	32	3	12	5	3	69	90	159
4. Diseases of the Blood and Blood-forming Organs	5	11	5	—	2	4	1	1	2	—	15	16	31
5. Chronic Poisonings	2	2	—	—	1	—	—	—	—	—	3	2	5
6. Diseases of the Nervous System and Sense Organs	67	62	23	—	63	37	9	10	8	2	170	111	281
7. Diseases of the Circulatory System ...	360	275	18	—	91	97	31	34	15	5	515	411	926
8. Diseases of the Respiratory System	233	129	42	—	465	382	78	56	36	26	854	593	1,447
9. Diseases of the Digestive System	153	132	16	—	370	325	38	34	21	13	598	504	1,102
10. Non-venereal Diseases of the Genito-urinary System and Annexa	106	62	9	—	36	34	9	3	2	1	162	100	262
11. Diseases of Pregnancy and Puerperal State	—	17	—	—	—	31	—	4	—	4	—	56	56
12. Diseases of the Skin and Cellular Tissue ...	12	4	—	—	—	3	—	—	—	1	12	8	20
13. Diseases of the Bones and Organs of Locomotion	6	3	1	—	3	3	—	—	—	—	10	6	16
14. Congenital Malformations	9	9	—	—	6	—	—	—	—	1	15	10	25
15. Diseases of Early Infancy	105	68	—	—	119	106	14	18	9	7	247	199	446
16. Old Age	11	19	—	—	6	5	2	2	1	—	20	26	46
17. Deaths from Violence	115	52	108	—	218	52	25	10	3	1	469	115	584
18. Ill-defined Diseases	16	18	4	—	36	21	6	4	—	—	62	43	105
Unknown	—	1	—	—	1	—	—	—	—	—	1	1	2
TOTALS	1,509	1,112	342	—	1,837	1,400	280	236	124	74	4,092	2,822	6,914

Annexure B.

DEATHS DURING THE YEAR ENDED 30th JUNE, 1941.

DISEASE GROUP.	Europeans		Natives (Mining)		Natives (Non-mining)		Coloureds		Asiatics		Persons		
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Total
1. Infectious and Parasitic Diseases	129	81	104	—	376	280	40	44	11	10	660	415	1,075
2. Malignant and Other Tumours	159	157	8	—	21	23	3	12	7	4	198	196	394
3. Rheumatism, Diseases of Nutrition and of Endocrine Glands and Other General Diseases	18	39	1	—	19	16	2	6	6	2	46	63	109
4. Diseases of the Blood and Blood-forming Organs	15	13	1	—	5	3	1	—	1	—	23	16	39
5. Chronic Poisonings	4	4	—	—	3	1	—	—	—	—	7	5	12
6. Diseases of the Nervous System and Sense Organs	67	72	20	—	62	43	7	9	1	—	157	124	281
7. Diseases of the Circulatory System	388	340	20	—	118	128	19	38	18	10	563	516	1,079
8. Diseases of the Respiratory System	269	148	41	—	589	467	65	65	32	19	996	699	1,695
9. Diseases of the Digestive System	155	121	9	—	355	294	34	27	20	9	573	451	1,024
10. Non-venereal Diseases of the Genito-urinary System and Annexa	110	52	2	—	48	44	9	9	4	1	173	106	279
11. Diseases of Pregnancy and Puerperal State	—	10	—	—	—	23	—	4	—	3	—	40	40
12. Diseases of the Skin and Cellular Tissue	5	2	3	—	3	1	2	1	—	—	13	4	17
13. Diseases of the Bones and Organs of Locomotion	3	1	—	—	1	—	—	—	—	—	4	1	5
14. Congenital Malformations	16	7	—	—	10	4	2	2	—	—	28	13	41
15. Diseases of Early Infancy	71	69	—	—	127	118	15	14	10	10	223	211	434
16. Old Age	10	17	—	—	1	4	2	1	—	—	13	22	35
17. Deaths from Violence	118	63	161	—	246	42	24	12	7	1	556	118	674
18. Ill-defined Diseases	17	21	2	—	32	18	3	4	—	1	54	44	98
TOTALS	1,554	1,217	372	—	2,016	1,509	228	248	117	70	4,287	3.044	7,331

Annexure C.

DEATHS DURING THE YEAR ENDED 30th JUNE, 1940.

Disease Group	European or Non-European	0 to 1 year	1 to 2 years	2 to 5 years	5 to 9 years	10 to 14 years	15 to 19 years	20 to 24 years	25 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	65 to 74 years	75 years and Over	Unknown	Total
1. Infections and Parasitic Diseases	E.	18	12	14	6	4	7	3	16	12	30	28	24	8	—	182
	N.E.	153	44	36	24	12	43	95	160	136	104	38	14	8	—	867
2. Malignant and Other Tumours	E.	—	—	—	—	1	1	3	6	21	52	92	91	33	—	300
	N.E.	—	—	2	—	—	—	1	6	14	14	9	5	1	—	52
3. Rheumatism, Diseases of Nutrition and of the Endocrine Gland and Other General Diseases	E.	5	—	2	8	5	2	4	5	4	5	12	17	6	—	75
	N.E.	22	11	6	3	5	2	3	11	8	8	5	—	—	—	84
4. Diseases of the Blood and Blood-forming Organs	E.	1	—	1	1	—	—	1	2	1	4	2	1	2	—	16
	N.E.	1	—	—	—	1	3	4	3	—	2	—	1	—	—	15
5. Chronic Poisonings	E.	—	—	—	—	—	—	—	—	3	1	—	—	—	—	4
	N.E.	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1
6. Diseases of the Nervous System and Sense Organs	E.	12	3	1	1	3	5	3	11	14	13	21	19	23	—	129
	N.E.	47	9	3	3	6	6	9	20	15	11	14	6	3	—	152
7. Diseases of the Circulatory System	E.	—	—	1	1	2	2	6	18	29	108	154	187	127	—	635
	N.E.	2	2	1	2	5	11	13	47	63	59	48	26	11	1	291
8. Diseases of the Respiratory System	E.	54	17	8	1	1	2	1	18	20	45	65	60	70	—	362
	N.E.	488	151	72	27	9	14	27	70	71	77	40	28	10	1	1,085
9. Diseases of the Digestive System	E.	76	16	2	1	—	4	5	11	32	28	53	29	28	—	285
	N.E.	493	180	15	9	3	7	13	22	19	44	5	4	3	—	817
10. Non-venereal Diseases of the Genito-urinary System and Annexa	E.	10	—	—	3	2	2	4	10	3	19	21	50	44	—	168
	N.E.	9	7	3	3	1	2	5	16	14	14	9	7	4	—	94
11. Diseases of Pregnancy and Puerperal State	E.	—	—	—	—	—	—	4	12	1	—	—	—	—	—	17
	N.E.	—	—	—	—	—	3	11	17	7	—	—	—	—	1	39
12. Diseases of the Skin and Cellular Tissue	E.	—	1	—	—	—	—	—	—	1	2	6	3	3	—	16
	N.E.	4	—	—	—	—	—	—	—	—	—	—	—	—	—	4
13. Diseases of the Bones and Organs of Locomotion	E.	1	—	—	—	1	—	1	—	2	1	—	1	2	—	9
	N.E.	—	—	—	1	1	—	—	2	2	—	—	—	—	1	7
14. Congenital Malformations	E.	15	—	—	3	—	—	—	—	—	—	—	—	—	—	18
	N.E.	5	2	—	—	—	—	—	—	—	—	—	—	—	—	7
15. Diseases of Early Infancy	E.	170	3	—	—	—	—	—	—	—	—	—	—	—	—	173
	N.E.	270	1	2	—	—	—	—	—	—	—	—	—	—	—	273
16. Old Age	E.	—	—	—	—	—	—	—	—	—	—	—	6	24	—	30
	N.E.	—	—	—	—	—	—	—	—	—	—	1	4	11	—	16
17. Deaths from Violence	E.	2	3	6	7	—	12	15	34	17	28	20	12	11	—	167
	N.E.	19	8	7	11	7	19	55	179	74	20	14	2	2	—	417
18. Ill-defined Diseases	E.	6	—	—	—	1	1	—	1	5	4	8	4	4	—	34
	N.E.	8	—	3	—	2	—	8	14	16	9	7	2	2	—	71
Unknown	E.	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
	N.E.	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
TOTALS		1,891	473	215	115	72	145	294	711	605	672	672	603	440	6	6,914

Annexure D.

DEATHS DURING THE YEAR ENDED 30th JUNE, 1941.

Disease Group	European or Non-European	0 to 1 year	1 to 2 years	2 to 5 years	5 to 9 years	10 to 14 years	15 to 19 years	20 to 24 years	25 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	65 to 74 years	75 years and Over	Unknown	Totals
1. Infections and Parasitic Diseases	E.	31	15	22	10	5	4	7	12	21	21	29	20	13	—	210
	N.E.	146	39	37	23	16	44	80	177	133	91	52	18	8	1	865
2. Cancer and Other Tumours	E.	—	—	—	—	1	—	2	6	18	50	96	91	52	—	316
	N.E.	1	—	1	—	—	2	1	9	22	14	17	7	4	—	78
3. Rheumatism, Diseases of Nutrition and of the Endocrine Glands, other General Diseases and Vitamin Deficiency Diseases	E.	4	1	—	1	—	1	2	3	1	6	16	17	5	—	57
	N.E.	14	5	8	1	—	—	2	2	5	5	4	4	2	—	52
4. Diseases of the Blood and Blood-forming Organs	E.	2	1	—	1	1	1	1	4	2	3	5	6	1	—	28
	N.E.	1	1	1	—	—	—	2	3	2	—	1	—	—	—	11
5. Chronic Poisonings and Intoxication	E.	—	—	—	—	—	—	—	1	—	2	1	4	—	—	8
	N.E.	—	—	—	—	—	—	—	1	2	1	—	—	—	—	4
6. Diseases of the Nervous System and Sense Organs	E.	13	8	4	2	2	—	1	3	10	9	29	27	31	—	139
	N.E.	48	7	5	1	2	3	4	28	9	15	8	5	7	—	142
7. Diseases of the Circulatory System	E.	1	—	2	3	7	7	6	14	30	96	156	236	169	1	728
	N.E.	1	1	—	11	8	15	6	41	73	72	61	36	26	—	351
8. Diseases of the Respiratory System	E.	58	23	15	5	1	1	10	7	26	48	79	84	60	—	417
	N.E.	524	208	95	23	12	18	20	89	83	93	63	31	19	—	1,278
9. Diseases of the Digestive System	E.	95	10	6	7	1	2	1	17	20	30	27	40	20	—	276
	N.E.	444	154	40	13	4	5	10	27	10	21	12	4	4	—	748
10. Non-venereal Diseases of the Genito-urinary System and Annexa	E.	4	—	1	1	—	—	2	8	12	19	28	54	33	—	162
	N.E.	14	8	7	1	—	3	6	11	24	15	15	10	3	—	117
11. Diseases of Pregnancy and Puerperal State	E.	—	—	—	—	—	1	4	2	3	—	—	—	—	—	10
	N.E.	—	—	—	—	—	5	5	14	4	1	1	—	—	—	30
12. Diseases of the Skin and Cellular Tissue	E.	—	—	—	—	—	—	—	1	—	—	1	4	1	—	7
	N.E.	1	1	—	—	—	1	—	4	1	2	—	—	—	—	10
13. Diseases of the Bones and Organs of Locomotion	E.	—	—	1	—	1	—	—	—	1	—	—	—	1	—	4
	N.E.	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1
14. Congenital Malformations	E.	18	1	3	—	—	—	1	—	—	—	—	—	—	—	23
	N.E.	15	1	1	1	—	—	—	—	—	—	—	—	—	—	18
15. Diseases of Early Infancy	E.	140	—	—	—	—	—	—	—	—	—	—	—	—	—	140
	N.E.	290	2	1	—	—	—	1	—	—	—	—	—	—	—	294
16. Old Age	E.	—	—	—	—	—	—	—	—	—	—	—	4	23	—	27
	N.E.	—	—	—	—	—	—	—	—	—	—	—	1	7	—	8
17. Deaths from Violence	E.	7	8	3	3	2	7	14	26	26	21	22	22	20	—	181
	N.E.	12	6	14	10	6	21	60	222	100	30	8	2	—	2	493
18. Ill-defined Diseases	E.	1	—	1	1	—	—	1	1	4	2	10	8	9	—	38
	N.E.	7	2	3	4	2	1	—	12	9	10	5	3	2	—	60
TOTALS		1,892	502	271	122	71	142	249	745	651	677	747	738	520	4	7,331

Annexure E.

INFECTIOUS DISEASES NOTIFIED 1939-40 AND 1940-41.

Disease.	Europeans.		Natives.								Coloured.		Asiatics.		All Races (excluding imp. cases).		All Races (imp. cases only).	
			Orlando.		Pimville.		City.		Total.									
	1939-40	1940-41	1939-40	1940-41	1939-40	1940-41	1939-40	1940-41	1939-40	1940-41	1939-40	1940-41	1939-40	1940-41	1939-40	1940-41	1939-40	1940-41
Pulmonary Tuberculosis (mines) ...	—	—	—	—	—	—	168	167	168	167	—	—	—	—	168	167	153	104
Pulmonary Tuberculosis (non-mine) ...	78	61	77	93	34	40	229	294	340	427	55	58	12	12	485	558	52	58
Other Forms of Tuberculosis (mine) ...	—	—	—	—	—	—	50	33	50	33	—	—	—	—	50	33	11	6
Other Forms of Tuberculosis (non-mine)	28	20	9	15	8	11	50	51	67	77	13	8	1	4	109	109	7	26
Diphtheria	234	299	6	12	1	2	20	31	27	45	12	19	7	4	280	367	8	20
Malta Fever	2	2	—	—	—	—	—	—	—	—	—	—	—	—	2	2	—	—
Puerperal Sepsis	50	71	12	14	5	17	37	56	54	87	7	6	7	2	118	166	6	11
Erysipelas	75	69	—	2	—	2	10	10	10	14	5	6	2	2	92	91	1	1
Scarlet Fever	625	626	1	—	—	—	2	2	3	2	6	3	—	2	634	633	2	2
Typhoid	52	74	2	10	9	9	69	89	80	108	12	5	1	7	145	194	12	14
Leprosy	1	—	3	2	—	2	9	24	12	28	—	1	—	1	13	30	50	40
Pemphigus Neonatorum	16	57	1	—	—	3	3	5	4	8	1	1	—	1	21	67	1	1
Ophthalmia Neonatorum	87	73	31	47	30	34	34	45	95	126	40	28	4	4	226	231	4	3
Gonococcal Ophthalmia	5	3	—	—	4	1	5	2	9	3	3	—	—	—	17	6	1	2
Gonococcal Junctivitis	1	—	1	2	16	—	3	1	20	3	—	—	—	—	21	3	—	1
Acute Poliomyelitis	8	20	—	2	—	—	1	1	1	3	1	—	—	—	10	23	1	8
Encephalitis—Infective	1	4	—	—	—	—	—	—	—	—	—	—	—	—	1	4	—	1
Smallpox	—	—	4	—	3	—	1	3	8	3	—	—	—	—	8	3	1	—
Cerebro-spinal Meningitis	40	54	—	—	—	1	46	32	46	33	3	9	3	3	92	99	15	6
Lead Poisoning	—	—	—	—	—	—	—	4	—	4	—	—	—	—	—	4	—	—
Trachoma	—	—	4	—	3	—	34	16	41	16	3	1	2	1	46	18	4	3
Total	1,303	1,433	151	199	113	122	771	866	1,035	1,187	161	145	39	43	2,538	2,808	329	307

Annexure F.

DETAILS REGARDING TUBERCULOSIS (ALL FORMS), EXCLUDING NOTIFICATIONS OF IMPORTED CASES. NUMBER OF DEATHS AND DEATH RATES CORRECTED FOR OUTWARD TRANSFERS ONLY.

Year.	Population.		European.		Non-European.		European.		Non-European.	
	European.	Non-European.	Number of Notifications.	Number of Notifications per 1,000.	Number of Notifications.	Number of Notifications per 1,000.	Number of Deaths.	Death Rate per 1,000.	Number of Deaths.	Death Rate per 1,000.
1931/32 ...	205,400	180,000	13	0·06	371	2·06	71	0·34	285	1·58
1932/33 ...	213,230	178,600	13	0·06	433	2·42	58	0·27	281	1·57
1933/34 ...	222,000	190,700	21	0·09	313	1·64	69	0·31	304	1·59
1934/35 ...	240,000	208,000	34	0·14	348	1·67	67	0·28	289	1·39
1935/36 ...	250,638	221,678	20	0·08	265	1·19	67	0·27	325	1·47
1936/37 ...	262,300	229,740	28	0·11	295	1·28	57	0·22	315	1·37
1937/38 ...	271,800	237,000	19	0·07	347	1·46	53	0·19	337	1·42
1938/39 ...	285,400	269,150	87	0·30*	482	1·79	66	0·23	380	1·41
1939/40 ...	288,000	275,256	106	0·37	706	2·56†	68	0·24	456	1·66
1940/41 ...	276,200	282,300	81	0·29	786	2·78	58	0·21	489	1·73

* Increase in this and the subsequent years coincides with the adoption of more active measures in the follow-up of contacts and investigation of cases.

† Increase in this and the subsequent year coincides with the reorganisation and expansion of health and medical services in the Council's native locations.

Annexure G.

MEDICAL SERVICES—NATIVE TOWNSHIPS—JULY, 1939, TO JUNE, 1940.

	ORLANDO.			PIMVILLE.			EASTERN NATIVE TOWNSHIP.			WESTERN NATIVE TOWNSHIP.		
	First Visit.	Re-visit.	Total.	First Visit.	Re-visit.	Total.	First Visit.	Re-visit.	Total.	First Visit.	Re-visit.	Total.
I. Dispensary and Clinics.												
Dispensary	23,370	18,481	41,751	10,434	13,999	24,433	1,367	2,462	3,829	16,515	6,769	23,284
V.D. Clinic	3,318	13,676	16,994	2,217	4,955	7,172	333	862	1,195	1,787	4,475	6,262
T.B. Clinic	218	122	340	198	49	247	1	—	1	99	82	181
Ante-natal Clinic ...	934	1,395	2,329	604	602	1,206	120	111	231	306	572	878
Post-natal Clinic ...	58	—	58	68	38	106	2	1	3	67	18	85
Child Welfare Clinic ...	915	5,177	6,092	421	2,038	2,459	428	2,019	2,447	2,012	3,724	5,736
Totals	28,813	38,851	67,564	13,942	21,681	35,623	2,251	5,455	7,706	20,786	15,640	36,426
II. Home Visits:												
Medical Officer	1,647	649	2,296	606	445	992	285	128	413	784	542	1,326
Health Visitor	1,388	1,279	2,667	369	1,394	1,763	173	1,131	1,304	405	137	542
Native Nurses	12,247	24,107	36,354	3,725	8,074	11,799	2,514	10,379	12,693	2,490	8,590	11,080
Native Orderlies ...	3,510	576	4,086	1,063	319	1,382	286	548	834	201	241	442
Totals	18,792	26,611	45,403	5,763	10,232	15,936	3,258	12,186	15,444	3,880	9,510	13,390
III. Confinements:												
Medical Officer	—	—	—	7	—	7	13	—	13	—	—	—
Native Midwives ...	863	—	863	228	146	374	114	327	441	165	529	694

DENTAL SERVICES—NATIVE TOWNSHIPS—YEAR ENDING 30th JUNE, 1940.

Summary of Treatment at Surgery (including children from schools).

	ORLANDO.	PIMVILLE.	EASTERN	WESTERN
	Total	Total	Total	Total
Fillings	146	2	1	42
Extractions	7,417	2,807	1,435	6,433
Anaesthetics	1	—	—	—
Number of Patients	6,399	1,974	873	3,158

Annexure H.

MEDICAL SERVICES—NATIVE TOWNSHIPS—SUMMARY FOR PERIOD 1st JULY, 1940, TO 30th JUNE, 1941.

	ORLANDO.			PIMVILLE.			EASTERN NATIVE TOWNSHIP.			WESTERN NATIVE TOWNSHIP.		
	First Visit.	Re-visit.	Total.	First Visit.	Re-visit.	Total.	First Visit.	Re-visit.	Total.	First Visit.	Re-visit.	Total.
I. Dispensary and Clinics.												
Dispensary	8,589	32,119	40,780	9,989	23,843	33,832	1,607	5,225	6,832	10,897	15,328	26,225
V.D. Clinic	2,324	13,004	15,328	1,516	7,843	9,359	187	1,827	2,014	1,514	5,187	6,701
T.B. Clinic	224	80	304	122	71	193	4	4	8	118	11	129
Ante-natal Clinic ...	998	2,306	3,304	627	1,169	1,796	155	99	254	375	599	974
Post-natal Clinic ...	104	85	189	52	—	52	—	—	—	104	9	113
Child Welfare Clinic ...	673	8,666	9,339	378	4,947	5,325	150	2,948	3,098	842	7,650	8,492
Totals	12,912	56,260	69,172	12,684	37,873	50,557	2,103	10,103	12,206	13,850	28,784	42,634
II. Home Visits:												
Medical Officer	2,274	1,082	3,356	954	342	1,296	242	67	309	559	141	700
Health Visitor	1,447	2,548	3,995	425	852	1.277	287	1,056	1,343	470	363	833
Native Nurses	12,972	29,322	42,294	1,821	9,558	11,379	691	6,895	7,586	3.456	9,182	12,638
Native Orderlies ...	2,701	3.660	6,361	1,722	3,286	5,008	109	1,432	1,541	1,740	980	2,720
Totals	19,394	36,612	56,006	4,922	14,038	18.960	1,329	9,450	10,779	6,225	10,666	16,891
III. Confinements:												
Medical Officer	—	—	—	—	—	—	—	—	—	—	—	—
Native Midwives ...	—	—	878	372	1,473	1.845	126	675	801	241	278	519

DENTAL SERVICES—NATIVE TOWNSHIPS—YEAR ENDING 30th JUNE, 1941.

Summary of Treatment at Surgery (including children from schools).

	ORLANDO.				PIMVILLE.				EASTERN NATIVE TOWNSHIP.				WESTERN NATIVE TOWNSHIP.			
Age	1-6	6-8	8-	Adult	1-6	6-8	8-	Adult	1-6	6-8	8-	Adult	1-6	6-8	8-	Adult
Fillings	10	15	31	—	—	—	—	—	—	—	—	—	—	—	—	—
Extractions	197	277	707	4.382	66	135	590	2,415	15	51	130	800	157	284	779	4,002
Number of Patients	133	235	648	4,256	46	121	520	2,261	11	46	127	615	137	235	837	3,739

Annexure I.

SEWAGE DISPOSAL.

TABLE OF CHEMICAL ANALYSES FOR YEAR 1st JULY, 1939, TO 30th JUNE, 1940.

Average of Weekly Analyses: Parts per 100,000.

	Oxygen absorbed in 3 mins.	Oxygen absorbed in 4 hours.	Chlorine in Chlorides.	Settleable Solids cc./Litre (1 hour) Imhoff cone.	Nitrous Nitrogen.	Nitric Nitrogen.	Ammoniacal Nitrogen.	Albuminoid Nitrogen.	Bio-Chemical Oxygen Demand. 5 days' test.	Per cent. Purification Screened Sewage to Final Effluent.	
										On Oxygen absorbed in 4 hours.	On Albuminoid Nitrogen.
Antea Works:											
Screened Sewage	4·28	13·93	10·4	15	—	—	6·65	1·24	—		
Tank Effluent	3·23	9·06	10·8	0·6	—	—	7·29	0·79	—		
Primary Effluent	1·26	3·65	10·7	4·3	0·3	1·8	3·03	0·53	—		
Secondary Effluent	0·55	1·55	10·4	trace	0·16	2·1	2·12	0·16	1·43	88·9	87·1
Bruma Works:											
Screened Sewage	3·69	11·17	13·0	30	—	—	5·59	1·37	—		
Tank Effluent	2·58	6·51	14·6	1·4	—	—	5·70	0·71	—		
Primary Influent	1·77	4·97	14·3	0·8	—	—	3·87	0·62	—		
Primary Effluent	1·41	3·69	14·5	4·3	0·3	2·0	1·96	0·76	—		
Secondary Effluent	0·42	1·12	14·0	trace	0·04	2·2	1·23	0·14	1·04	90·4	89·8
Cydna Works:											
Screened Sewage	2·76	9·14	7·5	11·0	—	—	4·15	1·01	—		
Tank Effluent	2·00	6·18	7·6	2·3	—	—	4·58	0·70	—		
Primary Effluent	0·89	2·65	8·4	1·4	0·30	2·30	1·87	0·27	—		
Secondary Effluent	0·37	0·97	8·2	trace	0·06	2·1	1·33	0·12	0·79	89·1	88·1
Delta Works:											
Screened Sewage	3·47	9·77	8·5	18	—	—	5·14	1·03	—		
Tank Effluent	2·37	6·00	8·7	1·1	—	—	5·14	0·67	—		
Primary Effluent	0·65	1·51	8·0	1·3	0·3	1·7	1·49	0·25	5·81		
Secondary Effluent	0·36	0·99	7·7	trace	0·2	2·5	0·91	0·11	0·98	89·9	89·3
Klipspruit Farm:											
Screened Sewage	7·86	22·66	18·6	19	—	—	7·69	2·83	—		
Tank Effluent	5·13	14·29	17·5	1·3		...	6·82	1·28	—		
Primary Effluent	2·31	5·98	17·7	6·1	0·75	0·9	3·76	0·59	3·59		
Effluent to Homestead Farm	1·60	1·20	25·3	trace	0·08	0·35	3·39	0·30	5·1	81·4	89·4
Harrington Spruit Filter	1·00	2·59	27·1	trace	0·09	1·60	2·57	0·32	2·58	88·6	88·7

Annexure J.

SEWAGE DISPOSAL.

TABLE OF CHEMICAL ANALYSES FOR YEAR 1st JULY, 1940, TO 30th JUNE, 1941.

Average of Weekly Analyses: Parts per 100,000.

	Oxygen absorbed in 3 mins.	Oxygen absorbed in 4 hours.	Chlorine in Chlorides.	Settleable Solids cc./Litre (1 hour) Imhoff cone.	Nitrous Nitrogen.	Nitric Nitrogen.	Ammoniacal Nitrogen.	Albuminoid Nitrogen.	Bio-Chemical Oxygen Demand. 5 days' test.	Per cent. Purification Screened Sewage to Final Effluent.	
										On Oxygen absorbed in 4 hours.	On Albuminoid Nitrogen.
Antea Works:											
Screened Sewage	4·05	12·49	9·2	12·9	—	—	6·1	1·2	—		
Tank Effluent	2·92	7·49	9·8	0·5	—	—	6·5	0·8	—		
Primary Effluent	1·25	2·65	10·0	0·4	0·27	2·2	2·8	0·4	—		
Secondary Effluent	0·63	1·46	9·7	nil	trace	2·5	2·1	0·2	1·94	88·4	83·4
Bruma Works:											
Screened Sewage	3·58	11·32	10·3	29·3	—	—	5·8	1·5	—		
Tank Effluent	2·42	6·24	11·7	0·6	—	—	6·2	0·9	—		
Primary Influent	1·74	4·53	11·6	1·0	—	—	4·4	0·7	—		
Primary Effluent	1·13	3·02	11·5	1·2	0·22	3·2	1·8	0·5	—		
Secondary Effluent	0·78	1·08	11·2	trace	0·01	2·6	1·1	0·3	1·18	90·4	80·0
Cydna Works:											
Screened Sewage	2·90	8·79	7·3	10·7	—	—	4·5	1·0	—		
Tank Effluent	2·02	5·74	7·5	0·6	—	—	4·9	0·7	—		
Primary Effluent	0·95	2·21	8·1	0·3	0·29	2·1	2·5	0·4	—		
Secondary Effluent	0·45	1·04	8·2	trace	0·06	1·5	2·1	0·2	1·57	88·4	80·0
Delta Works:											
Screened Sewage	3·74	10·18	8·6	19·9	—	—	5·2	1·2	—		
Tank Effluent	2·77	6·51	8·6	0·8	—	—	5·7	0·9	—		
Primary Effluent	1·00	2·13	8·2	29·4*	0·16	0·6	3·0	0·6	—		
Secondary Effluent	0·55	1·22	8·1	0·9	0·07	2·3	1·7	0·3	3·17	78·2	75·0
Klipspruit Farm:											
Screened Sewage	7·00	19·86	15·9	17·1	—	—	7·7	3·8	—		
Tank Effluent	4·53	11·84	15·4	0·9	—	—	7·6	1·7	—		
Effluent to Homestead Farm	1·31	3·83	22·8	0·1	0·06	0·4	3·4	0·3	3·10	80·7	92·4
Effluent from Harrington Spruit Filter ...	1·14	2·92	25·5	trace	0·19	1·8	3·7	0·2	2·84	85·4	94·7

* Activated sludge, due to sludge out of condition, and consequent rising in separation tanks.

SURVEY OF INSANITARY DWELLINGS.

Township.	Major.	Minor.	Major-Minor.	Europeans.				Asiatics.				Natives.				Coloured D.				Coloured.			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Abbotsford	1	—	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Albertskroon	4	5	4	—	4	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Albertsville	17	7	8	—	—	—	—	1	—	—	—	1	2	—	—	1	—	—	—	6	4	4	1
Bellevue	4	—	3	1	3	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bellevue East	14	—	4	3	6	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Berea	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bertrams	9	—	7	2	4	2	1	—	1	1	—	—	1	—	—	—	—	—	—	—	—	—	—
Bezuidenhout Valley ...	14	7	22	4	4	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Birnam	2	—	1	2	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Booysens	7	15	47	9	17	9	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Booysens Reserve ...	24	14	26	7	20	16	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Braamfontein	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Braamfontein Werf ...	1	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bramley	5	—	1	1	2	—	1	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Brixton	3	1	4	2	4	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Burghersdorp	34	9	47	2	5	2	—	22	47	25	12	—	—	—	—	4	10	10	—	—	1	1	—
City and Buburban ...	19	4	16	4	12	7	2	2	1	2	2	—	1	—	—	11	13	15	5	—	1	2	1
Claremont	—	3	8	—	—	—	—	—	—	—	—	—	—	—	—	2	1	2	—	—	—	—	—
Cottesloe	—	6	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Craighall Park ...	56	31	39	9	22	15	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cyferfontein	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Denver	7	—	3	—	1	1	—	—	2	2	—	2	1	2	—	3	3	3	—	—	—	—	—
Doornfontein	22	1	18	7	9	2	—	1	4	12	4	1	—	—	—	2	1	—	—	10	6	5	1
East Town	8	2	2	2	5	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Farm Doornfontein ...	12	—	—	2	3	1	—	1	—	—	—	—	1	—	1	—	1	3	—	—	—	—	—
Farm Turffontein ...	4	—	—	1	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fairview	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fairwood	2	—	1	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ferreiras	24	12	29	7	1	4	3	5	18	19	12	2	3	5	—	40	57	42	17	2	8	8	1
Fordsburg	129	46	108	59	84	59	10	13	36	33	16	—	—	—	—	10	27	31	11	1	1	2	—
Forest Hill	5	7	17	4	3	12	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Gardens	9	1	4	4	9	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Greymont	10	10	26	5	9	8	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Carried Forward ...	450	183	452	138	230	156	33	45	109	96	46	7	10	7	1	73	113	106	33	19	21	22	4

Survey of Insanitary Dwellings—(continued).

Township.	Major.	Minor.	Major-Minor.	Europeans.				Asiatics.				Natives.				Coloured D.				Coloured.			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Brought Forward ...	450	182	452	138	230	156	33	45	109	96	46	7	10	7	1	73	113	106	33	19	21	22	4
Haddon	—	2	2	1	1	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Highlands North ...	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurst Hill	1	—	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—
Illovo	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Jeppe	35	4	6	4	17	32	3	—	—	—	—	—	—	—	—	1	3	—	—	—	—	—	—
Jeppe South	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	1	3	1	—	—	—	—	—
Judith Paarl	4	—	2	2	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Johannesburg	118	30	146	86	125	79	13	5	2	9	4	1	—	—	—	—	—	—	—	—	—	—	—
Kenilworth	4	9	12	2	4	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Kensington	4	—	1	2	1	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Klipriviersberg ...	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lakeview	5	2	5	—	3	5	—	—	—	—	—	—	—	—	—	—	1	3	—	3	1	—	—
Langlaagte	15	1	6	1	5	7	—	—	—	1	—	—	3	—	—	1	3	1	2	—	—	3	1
La Rochelle	2	—	4	—	3	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Linden	4	5	16	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lorentzville	6	—	9	1	3	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Malay Location ...	164	52	59	—	—	—	—	24	50	35	9	109	229	138	23	48	113	72	9	36	68	41	9
Malvern	—	—	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Marshalls	30	1	16	7	1	5	3	2	6	5	2	—	1	1	—	5	4	9	6	2	5	5	4
Martindale	7	78	34	—	—	—	—	1	1	2	—	257	79	27	3	1	—	1	—	1	—	—	—
Mayfair	—	—	1	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Melville	7	6	14	2	3	2	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Newclare	100	185	115	—	—	—	—	5	9	4	4	1,175	705	267	26	14	12	12	4	12	13	9	3
New Doornfontein ...	6	—	6	—	2	4	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Newlands	18	12	21	12	15	6	1	1	3	3	—	—	—	—	—	—	1	—	—	—	—	3	—
Newtown	—	2	2	—	—	—	—	—	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—
North Doornfontein ...	21	1	7	1	5	2	—	—	1	—	—	—	3	—	—	—	4	1	1	2	9	10	3
Norwood	16	2	10	2	11	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Oaklands	2	—	5	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Observatory	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ophirton	65	32	74	46	50	40	6	1	5	3	—	—	2	—	—	23	33	19	1	3	1	3	—
Orchards	7	1	14	5	4	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Carried Forward ...	1,093	609	1,042	313	486	367	62	84	191	163	70	1,550	1,032	440	53	167	290	225	56	78	118	96	24

Survey of Insanitary Dwellings—(continued).

Township.	Major.	Minor.	Major-Minor.	Europeans.				Asiatics.				Natives.				Coloured D.				Coloured.			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Brought Forward ...	1,093	609	1,042	313	486	367	62	84	191	163	70	1,550	1,032	440	53	167	290	225	56	78	118	96	24
Paarlshoop	41	3	19	27	52	32	7	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—
Parkhurst	1	3	6	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parktown	1	—	1	—	2	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parktown North ...	2	1	16	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pimville	1,163	—	6	—	—	—	—	—	—	—	—	1,617	1,083	644	103	—	—	—	—	—	—	—	—
Regents Park	3	1	1	—	1	—	1	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—
Richmond	7	2	15	3	8	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rosebank	—	3	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rosettenville	4	—	2	1	1	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sophiatown	101	387	354	—	—	—	—	4	3	4	1	1,337	507	158	15	6	—	—	1	—	—	4	—
Spes Bona	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	3	—	1	—	—	—	—
Sunnyside	—	2	11	—	1	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Townsview	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Troyeville	10	—	11	4	6	4	1	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—
Turffontein	25	23	70	12	31	24	15	—	2	2	—	—	—	—	—	—	—	—	—	—	—	—	—
Turffontein West ...	4	11	15	—	4	4	2	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Victory Park	—	—	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Village Main	3	—	—	2	2	—	—	—	—	—	—	—	—	—	—	—	2	4	—	—	—	—	—
Vrededorp	195	45	140	63	201	118	22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Wanderers View ...	1	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Waterval	3	2	7	—	2	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Waverley	1	—	6	1	—	3	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
Westgate	—	—	7	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Westdene	5	8	4	—	2	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Wolhuter	6	5	5	—	1	1	1	—	—	—	—	—	—	—	—	2	1	1	1	—	2	—	—
Yeoville	2	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals	2,672	1,105	1,747	428	803	566	112	89	197	169	72	4,506	2,622	1,242	171	176	298	231	59	78	120	100	24